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Vol. II

TRANSCRIPT OF RECORD

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Supreme Court of the United States

OCTOBER TERM, 1937

No. 313

LONE STAR GAS COMPANY, APPELLANT,

vs.

STATE OF TEXAS, THE RAILROAD COMMISSION
OF TEXAS, ET AL.

APPEAL FROM THE COURT OF CIVIL APPEALS FOR THE THIRD
SUPREME JUDICIAL DISTRICT OF THE STATE OF TEXAS

FILED AUGUST 13, 1937, 3

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[fol. 979] Q. This cost compares somewhat favorably with those structures, some of them?

A. Yes.

Q. Did you use about the same labor time per thousand feet of lumber?

A. Well, for framing lumber the labor charge is \$28.60 per thousand on these cottages.

Q. Is that the same that you, use on the measuring station structures?

A. Yes.

Q. Now, where you have a whole house to build should not you be able to get a better price per thousand feet of lumber for the labor involved?

A. As a general rule, yes.

Q. That is; there is a great deal more lumber work in one of these cottages than there would be in city gate measuring station structures?

A. Yes, sir; also a better grade of workmanship.

Q. The next classification of property appears to be Transmission System Measuring Station Equipment. On page 1403 you show an installation cost for that equipment in the Transmission System Measuring Station Equipment at Iowa Park, Wichita County, Line A-2, in the amount of \$215.27. How was that amount found?

A. Total materials in this station are estimated to cost \$764.90. Exclusive of welds, they are \$758.01. To this is added four percent for stores expense, in the amount of [fol. 980] \$30.32, and against the total amount of materials is applied 24.4 per cent for installation cost, amounting to \$184.95. This produced a figure of \$215.27.

Q. How did you find that 24.4 per cent would be the labor cost in making the installation?—Incidentally, Mr. Biddison, is that 24.4 per cent applied to materials after stores has been added or before stores?

A. That is before stores. In the installation of \$49,596.40 of equipment of this nature by the Lone Star Gas Company's forces the expense for labor and equipment; including field supervision, insurance, construction plant expenses, was \$12,116.02, or the installation charges were 24.4292 per cent of the value of the equipment.

[fol. 981] Q. Does the \$12,116.00 mean the actual cost to the Company, or is that a computed figure?

A. That is a computed figure from the labor hours actually used, priced at labor rates as of January 1st, 1934.

Mr. Griffith: 1933, you mean, Mr. Biddison?

A. 1933, I should have said, yes.

Q. Does that include an allowance for omissions and contingencies?

A. It does not.

Q. Is the labor for welding included?

A. It is not.

Q. How did you separate in making this study of the welding labor?

A. Well, I say the labor welding is not included. The labor of welding for special fittings, which are charged in as fittings, is not included in the setup here. There is some welding labor in it.

Q. Do you know how much?

A. No, I don't.

Q. Well, doesn't your inventory on this particular piece of installation elsewhere include all the welding?

A. Yes, it does.

Q. Well, then, the inclusion in your installation cost of a portion of the welding would be a duplication, would it not? [fol. 982] A. This does not include the welding for making up these special fittings which are priced in as welded fittings. I think there is no duplication in this.

Q. Your installation cost includes the plain welds, doesn't it—any welding done on the job?

A. Which figure of installation cost do you refer to now? I don't follow you.

Q. The twelve thousand figure that you find in your study includes all welding on the job, doesn't it?

A. No, I have just stated it did not.

Q. Well, how do you make the separation to get rid of all the welding time?

A. Why, just by leaving the welding out.

Q. Well, here is what I mean, Mr. Biddison,—how in the world could you tell whether the labor was helping a welder or doing something else—how could you make the separation upon the sheets which you had available to you?

A. Well, a welder is listed as a welder, and a welder's helper is listed as a welder's helper.

Q. Each time you have one of these jobs, Mr. Biddison, you have both the welder and the welder's helper working on the job?

A. Ordinarily, yes.

Q. And they do nothing but weld?

A. That isn't always the case. It is usually the case.
[fol. 983] Q. Well, where they do other things than weld, particularly the welder's helper, how do you make a separation of the time when you make your studies?

A. I think possibly you had better let Mr. Steinberger go into the analysis of the original data on this, to clarify that point. Mr. Steinberger made the original study.

Q. Oh, I see. Now, on this particular installation there is only—for welds there is only \$6.89. It stands to reason that there is a whole lot more welding on this particular installation than any \$6.89 amount, does it not?

A. Well, there is a lot more welding shown than that. In the item of \$50.12 for 6 x 66 inches with orange peel welded ends—there is some welding in that item; in the item of \$27.44 for similar equipment there is some welding in that; in the item of \$31.76 for cushions there is some welding in that.

Q. But as to the study and the way the study was made, you say we had better talk to Mr. Steinberger?

A. Well, to get back into any details as to the classification of these welders and welders' helpers and their omission, I think you had better go back to Mr. Steinberger and get his original figures on it, of which I have here only a summary. I might say that these fittings that I refer to [fol. 984] here as welded fittings are not the class of work that is done out there in the field on location; those are generally shop made and shipped in as fittings.

Q. Oh, with the welding work already done on them?

A. Yes, sir.

Q. Is your Volume IV handy, covering the Transmission Line Equipment. On page 1983 your grand total for this item of property is in the amount of \$31,894,439.40.

A. That is correct.

Q. In other words, this item of property represents about half of your total value—total physical property?

A. Yes, physical property.

Q. Now, the excavation figures which we asked you for yesterday apply to this class of equipment, do they not?

A. They do.

Q. And the excavation figures represent, next to the price of pipe, the largest item of cost for the installation, isn't that true?

A. Yes.

Q. When did you say, Mr. Biddison, that those sheets will be available to us?

A. I don't know just how long it will take to get this data; there are about 500 lines to copy; it is a two or three day job to set it up. It is in progress now.

Q. Do you suppose that they will be available this week any time?

[fol. 985] A. I am going to try to have them for you before the week-end.

Q. All right. Now, do you have the prices as of this date, Mr. Biddison, on this size of pipe for larger purchases? I believe that is what you said you did not have yesterday.

A. I believe I can get it in about a minute. The net delivered price as of June 11, 1934, Texas common points for 12-inch 45.450 lap welded line pipe, black, single random length, threaded and coupled, is \$1.8499 per foot.

[fol. 986] Q. What is the cost, f. o. b. factory or f. o. b. the mill?

A. \$1.4677 per foot.

Q. How did you go about getting those prices, Mr. Biddison?

A. These prices were secured through quotations of the National Tube Company, Jones & Laughlin Steel Corporation, and the Youngstown Sheet and Tube Company.

Q. Were the quotations from all those manufacturers the same?

A. Yes.

Q. Exactly the same?

A. Yes.

Q. How were these quotation- obtained? I mean what sort of letter—what was the information given the manufacturer?

A. Well, the manufacturer has been given a statement of the tonnage involved in the Lone Star Gas Company's system, for the purpose of naming the price based upon the tonnage.

Q. Do you have the letter written these manufacturers?

A. No, Mr. Richey, who is here, has the letters written to these manufacturers, and their replies thereto. He is here for the purpose of going into that in such detail as may be desired.

Q. On page 2037, Line 2nd B is shown—you have at the top of that page 517,632 feet of 20-inch 59.231 pounds per foot, A. O. Smith 30-foot joint pipe, shown at a total cost [fol. 987] of \$1,681,682.84; at a unit cost per foot of \$3.2488 per foot. Does this amount of 517,632 feet of this quantity of pipe check with the amounts actually shown per the Company's books for the pipe installed?

[fol. 988] A. Well, this checks with the engineering department's survey record on it after completion, and that is where the figure is derived from.

Q. Does it check with the records of the company showing the purchases of pipe?

A. I don't know.

Q. Has any check been made by you, Mr. Biddison, to find out if there is any snaking of pipe in the ditch on this quantity?

A. No, I did not check to find out about how much snaking there is. I know there is snaking, but I didn't check any records to find out any such thing as that.

Q. What do you mean by the term, snaking?

A. I mean variation from a straight line in the ditch.

Q. That is, in laying pipe, in order to cram more pipe into the ditch, you wave it around as much as you can in the ditch rather than laying it in a perfectly straight line?

A. That is correct.

Mr. Griffith: What is the purpose of that, Mr. Biddison?

A. The purpose of that is to provide slack so the pipe will not have so great a tendency to pull in two upon contraction when the weather gets cold.

Q. That results, doesn't it, in there being more lineal feet of pipe in the ditch than there are lineal feet of ditch?

A. Yes.

Q. In finding this quantity, Mr. Biddison, did you add in an amount for snaking?

A. No.

[fol. 989] Q. You didn't do that, did you?

A. No.

Q. Have you anywhere in your appraisal added in any amounts for snaking?

A. Well, there has been an allowance on omissions and contingencies in various places, which is designed to cover that, among other things.

Q. How much of the allowance for omissions and contingencies is to cover the item of snaking?

A. Well now, I don't know. Enough of it to cover it.

Q. How much is the allowance for omissions and contingencies that you apply to this length of pipe?

A. Two and one-half percent.

Q. On this particular line, what does that amount to, in dollars? Round numbers would be sufficient, Mr. Biddison.

A. Well, I have missed a column in here and have an error, but in round numbers it is \$49,000.00.

Q. Approximately \$50,000.00, you might say, in round numbers?

A. In round numbers, \$49,000.

Q. Now, what all does that cover, besides snaking?

A. Any other omissions, whatever they may be.

Q. Do you mean omissions from the actual length—the measured length?

A. Yes, or any other cause.

Q. Well now, aside from the item of snaking, Mr. Biddison, how could there be a failure to include all the pipe when the lines may actually have been measured?

[fol. 990] A. Well, there may have been more fittings than we have computed and many other things could happen to cause an omission from inventory, and this is designed to allow for any and all of them.

Q. Well, the fittings on the line are a small item aren't they, and amount to only about \$10,000.00?

A. That's right.

Q. And it wouldn't make any great difference in the total if some of the fittings were left off?

A. No, and this does not make any great difference in the total, either. There are undoubtedly welds made on that line at intervals closer than thirty feet.

Q. This line was built when?

A. I don't remember definitely, but about 1929, I believe.

Q. All of the actual construction costs on this line were carefully kept by the company at the time they were incurred. Is that not true?

A. I believe that is true. Mr. Steinberger has analyzed the cost of construction on this line in some considerable detail.

Q. And the construction costs actually applied to this line were based on a study of the costs incurred at the time it was built?

A. Yes, in great measure.

Q. Then there should not be any variation from the appraisal or the values as found by you, and those actually shown by the books of the company?

A. Well, I don't think that inference is justified. The labor rates are not necessarily the same and the cost of [fol. 991] pipe we know was not the same, and the cost of welding rod and other welding materials has varied, and innumerable things may have been changed since 1929.

Q. But so far as the inclusion or the exclusion of items are concerned, the same things should be valued, should they not?

A. Yes.

Q. And the cost per the books does not show any allowance for omissions and contingencies, does it?

A. Not that I know of. I don't see how it would.

Q. As a matter of fact, don't all the costs on the company's books take account of any omissions and contingencies?

A. They take account of such omissions and contingencies as were not provided for in the original estimate.

Q. Well now, if you made a correction, Mr. Biddison, to bring the costs as per the books down to present day figures, and make the changes you have indicated for the purpose of getting prices of material and the prices of labor now current, then they should be exactly the same?

A. If I did that, but I didn't do that at all. I am making an estimate of costs of reproduction on this job.

Q. Why wouldn't that be a good thing to do here, Mr. Biddison?

A. Because that would not be an estimate of the cost of reproduction of this job, but simply a reconciliation of book figures to something else.

Q. It would be a correction of costs of a property that was incurred at a fairly late date to present day figures, wouldn't it?

[fol. 992] A. Yes, it would be that.

Q. Is there anything inconsistent in using that sort of an estimate here?

A. Yes, I think so. There should be allowances made for variations made from those recorded performances. I am certain today that line, if it were to be rebuilt, that the performances had and a great many other elements of cost would not be attempted to be duplicated today in a reconstruction of that line.

Q. Now, just what are you talking about there?

A. I am talking about the fact that this line was originally constructed very cheaply, and I do not think that the owners of that pipe line would today attempt getting the performances which they did have in the actual construction of that pipe line.

Q. Why wouldn't they?

A. Because the performance figures attained resulted in subsequent expenses in the actual construction. If you analyze the cost of this line, here is a twenty inch line, at about \$3.25 per foot, in place. There are a little over \$17,000.00 cost per mile, for a twenty inch line, a phenomenally low figure for any time during my knowledge of the gas business, extending back for thirty years. The old rule of thumb method of estimate was \$10,000.00 per mile per inch of diameter, which on this twenty inch line, would have made this \$20,000.00 per mile, and here we have a reproduction cost of only a little over \$17,000.00 per mile. [fol. 993] Mr. Griffith: Mr. Biddison, didn't you intend to say \$1,000.00 per mile per inch of diameter?

A. Yes.

Q. When you say it would probably have been a little bit better for the company to have spent a little bit more money on this line, rather than suffer the additional costs that came on later, you referred to the fact that your company would probably suffer by the fact that your company bought this line cheaply and when this matter is brought out in a rate controversy, they would suffer by it?

A. No sir, I referred to the fact that when they got this line completed, they had some difficulties which had to be remedied and at an expense to them.

Q. What are the difficulties you are referring to?

A. The difficulty I am referring to is breakage of welds.

Q. You haven't had any more upkeep on this line than you have on similar lines of construction?

A. The Lone Star Gas Company spent considerable money after the construction of this line on account of the grade of welding which had been done. It cost considerable money in gas.

* * * * *

[fol. 994] Q. On page 2037, Mr. Biddison, where you show a unit cost of \$3.2488 per foot on 20 inch 59.231 pounds per foot, A. O. Smith 30-foot joint pipe, that is the unit

cost on that large batch of pipe we were talking about before noon, isn't it?

A. Yes, sir.

Q. Will you please break down that unit cost?

A. The cost of pipe per foot delivered railroad sidings, per 100 lineal feet is \$253.5340 net. To this is added for store's expense, one per cent, or per hundred lineal feet, \$2.5353. There is added for stringing per hundred lineal feet, \$6.34; and for lining up pipe \$3.02; for painting, \$9.3167; for excavating, \$24.0593; for backfilling, \$3.9535; for laying and testing, \$14.20; producing a sub-total for installation of \$63.4248 and a subtotal, including pipe and installation, of \$316.9588. To this is added two and a half [fol. 995] per cent, or \$7.9240, producing a figure of cost in place of \$320.8828 per hundred lineal feet. This is exclusive of the welding.

Q. Now, this purchase of pipe involves, as shown in your inventory, 517,632 feet?

A. Yes, sir.

Q. That is a sizable purchase of pipe isn't it?

A. It is.

Q. Yesterday you were asked, or day before yesterday, you were asked, Mr. Biddison, if in your opinion, pipe could have been bought as of January 1, 1933 at any price lower than the prices quoted by the manufacturer, and your answer was: "I believe in the case of an actual purchase of pipe that the pipe might have been purchased at slightly under those prices that were quoted us as of that date." Just exactly what did you mean by that statement?

A. Just what I said.

Q. Now, on purchases of as large a batch of pipe as this, is it your opinion that in the case of the actual purchase of a large quantity of pipe such as this, it could actually be purchased at under the prices quoted to you by the manufacturers?

A. No; I don't believe that; but I do believe that if an order were to be placed for pipe comparable in size to the amount in the Lone Star System that some concessions [fol. 996] might have been had from the prices quoted as of January 1, 1933. Now, what those concessions would be, I don't know, and I don't know how to find out. There were no such sizable purchases being made, and we got the lowest quotations that manufacturers would furnish us on this pipe for our evaluation.

Q. The prices you have used in pricing out your inventory would apply to one carload just as well as to a purchase of a thousand carloads; isn't that true?

A. I think that is not true. The prices we have are based on the quantities of pipe in the system, and they are the quotations furnished by the manufacturers.

Q. But there is no limitation, so far as the quotation given you is concerned, as to the quantity, whether it be a large or a small quantity?

A. The quotation is based on the quantities of pipe in the System—on the quantity of pipe that the Lone Star Gas Company has.

Q. After you furnished to the manufacturers the different sizes of pipe in the correct amounts as you found them for the Lone Star Gas Company, isn't it true that the quoted price they gave you then was just exactly the same quoted price they would have given anybody on carload lot purchases?

A. I don't think so.

Q. Well, did you check it?

A. Well, I have no facilities for checking any prices [fol. 997] they may have quoted any and everybody.

Q. You are an expert on this; you know what the prices for carload lots are?

A. Well, it varies all over the board as of that date?

Q. What do you mean by that?

A. I mean it fluctuates widely, depending on the conditions of purchase. Conditions were such on that date, where it might have been that distress lots could be picked up at bargain prices.

Q. Weren't all the quoted prices as of the date of your appraisal practically the same from all the large pipe manufacturers?

A. Yes; substantially the same.

Q. Aren't they the same practically all the time?

A. Very closely the same. At the present time, I think they are absolutely identical for all sizes and weights.

Q. That is the usual thing, isn't it?

A. It is usual for them to be very closely together. The variations would ordinarily be slight.

Q. Now, referring again to the prices as of today, don't those prices apply just as much to one carload as to a hundred carloads or more?

A. Well, the prices on small lots will apply to small lot purchases; the prices on large lots apply only to large lot purchases. There is a very distinct classification as to [fol. 998] size of purchases today that did not exist as of January 1, 1933.

Q. What is the line of cleavage that exists today? When is a purchase classified as a small purchase, and when as a sizeable purchase that takes a different price?

A. In the case of pipe from $2\frac{3}{8}$ inches to $5\frac{9}{16}$ inches, O. D., the division point is at 500 tons; in the case of pipe that is 6 inches to $7\frac{5}{8}$ inches, O. D., the division point is at 1000 tons; on pipe 8 inches O. D. to $9\frac{5}{8}$ inches O. D., the division point is 1500 tons; on pipe 10 inches O. D. to $10\frac{3}{4}$ inches O. D., the division point is at 2000 tons; on pipe 13 inches O. D. to 26 inches O. D. the division point is at 2500 tons.

Q. What is that you are reading from?

A. I am reading from a book compiled from data filed under the Steel Code.

Q. Well, is that a quotation sheet?

A. No, sir; it is not.

Q. What is the source of that information?

A. The source of that information is a quotation sheet.

Q. Well, what quotation sheet?

A. Well, I don't know whether this came from Jones and Laughlin, or Youngstown Sheet and Tube, or National Tube Company. They are identical in that respect.

Q. You mean that you have some information that you don't know the source of?

[fol. 999] A. I mean precisely that. I have information here that is uniform with regard to companies. Which sheet this is taken from I don't know. I don't know which one it was copied from.

Q. What is the difference so far as the price is concerned as between the small quantity purchases and the large quantity purchases?

A. The large quantity purchases bear an additional ten per cent discount.

Q. Does that stand true for all sizes?

A. Yes, sir.

Q. Well, that would apply to 12-inch or 20-inch, just as well as to 4-inch?

A. That is correct.

Q. Now, that is one division point, Mr. Biddison. Is there another division point for still higher purchases of pipe in still larger quantities?

A. There is not.

Q. You are positive about that.

A. I am. I had a great deal of difficulty in even getting quotations based on this large lot, and this large lot price is stated by the manufacturers to be the lowest price they are allowed to quote under their agreement with Code authorities.

Mr. Griffith: What do you mean by Code authorities—under the National Industrial Recovery Act?

A. Yes, sir.

[fol. 1000] Q. Are you familiar with that Code?

A. Well, I am familiar with the schedule filed on pipe. The balance, I am not.

Q. There is not a thing in the Code that prevents them from making quantity discounts on very large quantities of pipe, is there?

A. That is my interpretation of the wording of this agreement, that they will not quote below that schedule.

Q. The reason the Code takes no notice of extremely large quantity purchases of pipe is because those are such large quantities that the Code makes no exception?

The Court: I think you had better stay out of the Code, gentlemen.

Q. The Code that affects these companies is the Code of Fair Competition for the Steel Plate Fabricating Industry?

The Court: Gentlemen, I would rather you would not go into those things. There were some pleadings filed to which you objected, and I sustained the objection.

Mr. Griffith: I was cognizant of that when I asked the witness if he meant under the N.R.A.; but he had already stated "Code authorities." I thought it was fair for the understanding to be given.

Mr. Fitzhugh: Well, would it be improper for us to ask any questions as to prices fixed by the Code?

The Court: I think so. They have been fixed long since his estimates were made.

[fol. 1001] Q. All right. Go back to unit price now, Mr. Biddison. Your store's expense is one per cent of what—one per cent of cost of pipe?

A. The store's expense on pipe is computed at one per cent of the delivered cost of the pipe.

Q. Now, how did you arrive at that allowance?

A. An analysis made of construction work performed by the Lone Star Gas Company's forces in which the value of the pipe delivered was \$2,192,073.31 and in which other materials, including fittings, paint, and welding materials, amounted to \$173,027.27, shows actual direct plant store's expenses of \$23,249.12. Now, if to these miscellaneous materials we apply a store's expense of four per cent, amounting to \$6,921.09, we have remaining of that total store's expense actually incurred applying to pipe, \$16,328.03, which is approximately three-fourths of one per cent of the delivered value of the pipe. Now, this construction work was done at a time when the Company had warehouses already constructed in connection with their operations. So, in this estimate to allow in reproduction for the fact that the Company would not have established warehouses, and to allow for the rental of temporary warehouse sites and storage yards, there has been applied in connection with transmission line construction four per cent to the miscellaneous materials and one per cent to pipe.

[fol. 1002] Q. The warehouses that were used in the actual construction of this line you say are still there?

A. No, that was not my statement. I stated that at the time these lines were constructed the company was operating and did have some warehouses which were available for use in such construction work. That would not be the case under a reproduction program.

Q. In the study that you made was Line B one of the lines included—or Second B, rather?

A. It is.

Q. How much of your study did the study of Line B amount to?

A. Well, on pipe there was involved \$1,256,849.63; on other materials, \$94,571.99.

Q. That is, the study of Line Second B was almost half of your study?

A. That is correct.

Q. What were the warehouses that were actually used in the construction of Line Second B that you say are missing?

A. I didn't say any of them were missing. I said under a reproduction program you are going to produce the whole property, warehouses, lines, and everything.

Q. All right. What warehouses would you use in a reproduction of the property that were not there-at the time Line Second B was actually constructed?

A. Well, if you are going to reconstruct Line Second B you would require warehouse facilities at three or four locations along the line.

[fol. 1003] Q. Well, you actually had those at the time it was constructed?

A. Yes.

Q. The cost of warehouses is included in your study?

A. Yes, certainly. I could not have studied these costs if there had not been some warehouse costs to study.

Q. Now, in your cost of stringing, what did you figure the average haul to be?

A. Weighted average haul, 4.6 miles.

Q. This line follows pretty well the railroad, does it not?

A. Well, it follows generally the route of the Fort Worth & Denver City.

Q. Is the haul on this line—the average haul,—considerably less than that on the other lines of the company?

A. Well, it is considerably less than on a great many of them. For example, the average haul on Line A is 6.1 miles; the average haul on Line G is 9.28 miles; on Line H, 7.14 miles; on Second H, 8.3 miles. There are, however, numerous lines on which the average haul is lower.

Q. Did you use the same average haul for Line B?

A. Yes, sir.

Q. How did you find your allowance for laying and testing?

Mr. Griffith: You mean that as to Line Second B, Mr. Fitzhugh?

Mr. Fitzhugh: Yes, sir.

Q. I am talking about the cost, now, that entered into the cost of this pipe, \$14.20 per hundred feet.

A. The cost of laying and testing welded lines has been [fol. 1004] developed from a study of the cost incurred in the laying by the company of nearly a million and a half lineal feet of welded lines. The labor hours and the equipment hours used have been analyzed and priced at the prices as of January 1, 1933. Then that data has been plotted against various sized lines to determine the cost per lineal foot for laying such line. For twenty inch line,

59.231 pound welded line, in Texas, such cost has been so determined to be \$14.20 per one hundred lineal feet.

Q. Did you make that study, Mr. Biddison?

A. Mr. Steinberger's forces accumulated the data, and I have analyzed it.

Q. Well, now, did your analysis change Mr. Steinberger's findings in any way?

A. The only change made from the findings found was to change labor prices to agree with labor prices as of January 1, 1933.

Q. You assume no responsibility for the study?

A. I made the study.

Q. Well, I mean, Mr. Steinberger did the work, didn't he?

A. Mr. Steinberger accumulated data as to labor hours, etc., and I made the study of it so as to classify it by sizes of pipe.

Q. Was this line that we are talking about one of the lines included?

A. It was.

Q. What were the Second B costs actually incurred for laying and testing?

[fol. 1005] A. The costs at prices of labor as of January 1, 1933, are \$73,392.48.

Q. What does that represent per hundred feet?

A. \$14.18.

Q. What are all the items that enter into this seventy-three thousand dollar total?

A. Direct labor, 3,767 hours—no. Correction. I was on the wrong line. Foreman, 3,767 hours; laborers, 67,123 hours; tractor drivers, 13,727 hours; truck drivers, 4,031 hours; watchman, 2,319 hours; blacksmith, 10 hours; McCormick-Deering tractor, 11,447 hours; one ton truck, 3,573 hours; team and driver, 7,362 hours.

Q. What are those in dollar amounts?

A. Foreman, \$2,260.20; labor, \$23,493.05.

Q. I'll tell you, Mr. Biddison, instead of giving it that way just give the rates at which it is figured in the total; that will be sufficient.

A. Foreman, 60 cents; laborers, 35 cents; tractor drivers, 45 cents; watchman, 35 cents; truck driver, 45 cents; blacksmith, 50 cents; tractor, \$1.75; truck, \$1.00; team and driver, 75 cents. Now, to the total direct labor is added for field supervision 7.5 per cent; liability and compensation

insurance, 8.48 per cent; tools and construction plant expenses, 12.1 per cent. The total direct labor is \$34,561.00. Total equipment charges are \$29,126.75. Total field overheads are \$9,704.73; producing a total of \$73,392.48.

Q. Have you anywhere here included gas lost?

[fol. 1006] A. No, sir; it is not. On this particular line that was a very substantial item, as I recall it, something over forty-five thousand dollars' worth of gas.

Q. At what price do you figure that?

A. That was figured at field price.

Q. How much?

A. I think we figured two cent gas, is my recollection of that. I don't have the details on that before me. I have seen the figures.

Q. At the hearing before the Railroad Commission, at which you were present, Mr. Biddison, wasn't it said in that hearing that all the gas used in testing welds, Second B, was figured at a cost of 15 cents per thousand?

A. I don't know what was stated over there in regard to that. I don't think I was there when testimony on that point was brought out.

Q. On the same page you show 20 inch wells, quantity of 17,427, at \$6.932 each. How was that cost found?

A. That cost is developed from 15,005 firing welds at \$5.4287 each, amounting to \$81,457.64 and 2,422 tie-in welds at \$16.2327 per well, amounting to \$39,315.60. Combining the two, we have 17,427 welds, amounting to \$120,773.24, or an average rate per weld of \$6.9302, as used on page 2037.

Q. Where did you get the \$5.4287 cost for firing line weld?

A. From an analysis of welding work done by the Lone Star Gas Company's forces I found that for 20 inch wells, [fol. 1007] whose circumference is 62.832 inches, labor and equipment charge would be per lineal inch \$.055; that the cost of the rod per lineal inch of weld would be \$.068, based upon the consumption of—The figure of cost of rod I want to correct. The cost of rod would be \$.0072, based upon the use of .068 pounds at a cost of \$.1059 per pound; that the cost of carbids would be \$.01105 per lineal inch of weld, based upon a consumption of .108 pounds per lineal inch at a cost of \$.06136 per pound; that the consumption of oxygen at .00368 drums per lineal inch weld at \$3.5734 per drum would be \$.01315 per lineal inch, and that the total materials per lineal inch of weld on this 20 inch pipe would be \$.0314, which, added to the labor and equipment charges,

would produce a total per lineal line of weld of \$.08640, which, on 62.832 inches of welding, is \$.42868 per weld. Now, the common contract price on welding 20 inch lines in 1929 was \$9.00 per weld.

Q. On the same pipe?

A. On 20 inch A. O. Smith pipe; yes, sir.

[fol. 1008] Q. The same thickness?

A. Yes, sir.

Q. Where was that contract price in vogue?

A. In Kansas.

Q. None of the 2nd B wells were contracted at that rate, were they?

A. No, I merely cite that to show that this work was done very cheaply.

Q. Since these lines were built and those cost studies you refer to were made, have there been any improvements in the welding processes used in the building of those lines?

A. There have been some new welding methods developed that have been used to a limited extent, but I don't think anybody knows yet whether those new methods are improvements or not.

Q. At any rate, none of your figures show any of the improvements, do they?

A. No, sir, my figures are based upon the class of welding which exists in the system, the same as they are based upon the kind of pipe that exists in the system.

Q. Which is the biggest dresser coupler line in the system?

A. I don't know whether O or K would be the bigger one.

Q. Well, turn to the K System, page 2171. At the top of that page you have Plain end pipe installed in place, 18-
[fol. 1009] inch 49.074 pounds per foot, at a unit cost of \$2.9009 per foot. Break that up, please, sir.

A. 18-inch plain end dresser coupler line pipe 53.223 pounds per foot, cost of pipe—

Q. Now, wait just a minute. Take the top pipe of 49.074 pounds.

A. Weight per foot, 49.074, cost per foot delivered f. o. b. railway sidings, \$197.5743 per 100 lineal feet; stores expense per 100 lineal feet \$1.9757, hauling and stringing pipe \$.601 per 100 lineal feet; hauling and stringing couplers \$.750 per 100 lineal feet; painting \$.62245 per 100 lineal feet; excava-

tion \$54.6773 per 100 lineal feet; backfilling \$3.5661 per 100 lineal feet; laying and testing \$12.236 per 100 lineal feet; total \$283.0145 per 100 lineal feet, to which is added $2\frac{1}{2}$ per cent for omissions, or \$7.0754 per 100 lineal feet, producing a total figure of \$290.0899 per 100 lineal feet.

Q. You show a cost for painting of \$6.2245 per 100 feet. Now break up that cost, please, sir.

A. This consists of labor and equipment charges of \$2.02 per 100 lineal feet; paint, 5.77 gallons amounting to \$4.709, thinner .1737 gallons amounting to \$.1416, or a total material cost of \$4.8465, and a combined labor and material cost of \$6.8665.

Q. Was that based upon a study made by Mr. Steinberger?

[fol. 1010] A. It was based upon a study made by me of data collected by Mr. Steinberger.

Mr. Griffith: Covering the Company's actual experience?

A. Yes, sir.

Q. What was the price you used for paint?

A. \$.7840 per gallon, plus 4 per cent stores expense, making the final cost \$.8154 per gallon; for primer the price is \$.7840 per gallon, with 4 per cent stores expense added, brings the cost to \$.8154, or the same as for the paint.

Q. Is there any difference, Mr. Biddison, in the diameter of the pipe being painted, or, rather, I mean is there any difference in the cost of painting per square foot for different diameters of pipe?

A. Yes, there is.

Q. The cost per square foot tends to be less, the larger the diameter, is that right?

A. That is correct, both the cost of labor and the cost for materials.

Q. What are the costs per square foot, then, for the other sizes of pipe, either per square foot of surface or per lineal foot of pipe, either one?

A. The total costs?

Q. Yes, sir, the cost per square foot of surface or the [fol. 1011] cost per lineal foot of pipe?

A. Well, let me give you the total cost per 100 lineal feet on all sizes, then.

Q. All right.

A. 1-inch \$.9060 per 100 lineal feet; $1\frac{1}{4}$ inch, \$1.0368; $1\frac{1}{2}$ inch, \$1.1155; 2-inch, \$1.2647; $2\frac{1}{2}$ inch, \$1.4659; 3-inch, \$1.6166; 4-inch, \$1.9420; 6-inch, \$2.6259; 8-inch, \$3.2358;

10-inch, \$3.9298; 12-inch, \$4.5366. Now, these sizes which I have read so far are nominal sizes. The following sizes will be outside diameter sizes: 14-inch, \$4.9825; 16-inch, \$5.5825; 18-inch, \$6.2245; 20-inch, \$6.8665.

Q. Were those prices taken off of a graph?

A. Yes.

Q. Or a plotted curve?

A. They are determined by a graph, and the graph indicates that.

Q. Now, then, a part of the cost of this pipe per foot has been figured in by you as excavation at the rate of \$54.6773 per 100 feet, is that correct?

A. \$54.6773 per 100 lineal feet for excavation?

Q. Yes, sir.

A. That is correct.

Q. Now, what were the unit costs for the different kinds of excavation?

[fol. 1012] A. For machine excavation, \$4.260 per cubic yard; for hand excavation, \$.2138 per cubic yard; for rock excavation, \$3.8970 per cubic yard.

Q. What was that figure, please, sir?

A. \$3.8970 per cubic yard.

[fol. 1013] Q. What was your unit cost for backfill?

A. Per cubic yard, \$.1063.

Q. The unit cost for hand excavation of \$.2138 per yard is for short lengths, is it not?

A. That is correct.

Q. You have a unit cost for hand excavation of longer lengths?

A. Yes.

Q. What is that unit cost?

A. \$1.31 per cubic yard.

Q. Now, when did you use one and when did you use the other?

A. Well, I used the lower figure when we have a considerable stretch of hand excavation.

Q. About how many feet do you usually have to have in order to use that price?

A. Over two hundred lineal feet in one location.

Q. Now you do not show anywhere on the K line, the use of the lower cost for hand excavation, do you?

A. No.

Q. That is, in your inventory you evidently considered that Line K has no hand excavation of over two hundred feet?

A. Well, it has no long stretches of hand excavation that may be considered as being equivalent to long stretches. Such hand excavation as there is in connection with this construction is in comparatively short stretches, and at such places where hand excavation would be expensive—that is, approaches to and across ravines and so on.

[fol. 1014] Mr. Griffith: You meant to say machine excavation, did you not, Mr. Biddison?

A. Well, any character of construction, whether hand or machine, would be expensive at such locations.

Q. This line exceeds 100 miles in length, doesn't it?

A. Close to eighty miles. I have not converted it into miles.

Q. It is 565,000 feet, in round numbers, isn't it?

A. Well, I will tell you what it is precisely.

Q. Well it doesn't matter particularly about that, only approximately. But it is a good, long line, isn't it?

A. Yes. Yes, it is over 100 miles.

Q. But in all that distance you have not used the lower unit hand excavation price a single time, have you?

A. No, sir.

Q. How did you find the \$1.31 cost per cubic yard for hand excavation over 200 feet?

A. A suitable crew for the doing of that particular work was set up and considered to consist of one foreman at sixty cents per hour; two sub-foremen at 45 cents per hour, and eighty laborers at 35 cents per hour, amounting to \$295.00 per day. Adding to that for work in Texas field supervision at seven and one-half per cent, liability and workmen's compensation insurance, at 8.48 per cent; tools and construction plant expense at 12.1 per cent, and we have a total labor charge per day of \$377.85. Add to that two Ford pick up trucks at \$15.00 produces a total of \$392.85. Now I estimate [fol. 1015] that these eighty men will only average handling 3.75 cubic yards per day per man or a total of 300 cubic yards per day for the gang, at a cost of \$1.31 per cubic yard.

Q. Is the size of the trench in any way considered in this calculation?

A. No, this is an average figure, which will apply on practically all trenches in connection with the company's system

here, because the trenches are of such size that excavations can be reasonably accomplished.

Q. What is the size of trench for the 18 inch on Line K?

A. For the 18 inch, the trench is 26 inches wide by 43 inches deep, average.

Q. What size trench is usually used for the ordinary four inch tap line?

A. About 14 inches by 30 inches. It may sometimes be dug to 16 inches.

Q. Wouldn't it make considerable difference, Mr. Biddison, whether you were digging or excavating in a 26 inch trench, or a 14 inch trench?

A. Yes, it would make some difference.

Q. Well, have you considered that anywhere in this calculation?

A. No, I have set this up as an average figure, over-all, for that class of hand excavation, without trying to account for the difference in performance between the narrower and the wider trenches.

Q. What is the average size ditch to which you have applied this unit cost of \$1.31 per cubic yard?

[fol. 1016] A. I have applied it to any size ditch where that class of work was estimated to be done.

Q. Do you know what the average size of those trenches is?

A. No, they vary very widely, both as to the depth and as to the width. I don't know what the average would work out in either direction.

Q. This whole set up is hypothetical throughout; is it not—the number of men used and the performance of 3.75 cubic yards per day per man?

A. Well, I guess that term fits it.

Q. What was your reasoning, Mr. Biddison, in deciding that 3.75 cubic yards would be the performance?

A. Well, I think that is a performance that might reasonably be expected to be achieved in doing hand excavation under those conditions, based upon my experience.

Q. You have not checked that, Mr. Biddison, against the actual experience of the Company, have you?

A. Not on transmission lines. There is no analysis of that class of work on transmission lines containing enough data, properly kept, to enable a complete analysis to be made. But I have had analyses made of ditching work under varying conditions at varying times and places, and I think 3.75

cubic yards per man per day is a very rational average, under those average conditions.

Q. And so deciding, Mr. Biddison, you draw upon your general experience, rather than upon any practical experience [fol. 1017] of the company or actual figures; isn't that true?

A. Yes.

• • • • •

Mr. Fitzhugh:

Q. Where the performance was found by you in your hypothetical study, Mr. Biddison, to be 3.75 cubic yards per man per day, what sort of soil do you figure that to apply to? What average condition of soils do you figure that to be?

A. Well, just an average condition of soils, Mr. Fitzhugh. That is an over-all figure. The performance may vary from less than two yards, to in excess of five yards.

Q. Do you figure the average soil conditions on the Lone Star Gas Company to be loam or sandy, clay, or what?

A. No, the soil conditions on the average on the Lone Star Gas Company system would be more severe than sandy loam; they would more nearly approach a clay condition, as an average.

Q. As an ordinary thing, is that hard digging or easy digging?

A. Ordinarily in Texas, it is hard digging.

Q. The cost of \$1.31 per cubic yard for hand excavation where the footage was over 200 feet was used by you on field lines, was it not?

A. No, it was not.

Q. Well, was it used on tap lines?

A. On tap lines, yes. That is, on such tap lines as are [fol. 1018] estimated to be dug by hand.

Q. Now, on tap lines, Mr. Biddison, when did you decide whether to use hand or machine excavation?

A. I made an investigation of all tap lines and based upon that investigation decided to use hand excavation on certain lines on which it did not appear to be advantageous to use a ditching machine. Now a survey previously conducted had indicated a division between hand work and machine work on tap lines which I felt was erroneous to the extent that it classified as machine work all work which could be done by machine, without regard to whether or not it would be

economical to move in a machine to do that work. I had those tap lines re-classified in that respect, so that there has been herein estimated as being hand work, some of the work which in previous estimates on this system have been classified as machine work.

Q. And where you changed over from machine to hand excavation you inevitably get a higher cost, do you not?

A. You inevitably get a higher cost than was used for estimated machine excavation on there, without allowing for the long jumps between jobs.

Q. What I mean is, if you re-classify certain lines in this appraisal as being hand excavation, that were formerly classified as machine excavation, the cost of those lines now estimated as hand excavation will be in excess of what it was formerly?

A. Yes, but not higher than what I would estimate that performance by machine excavation at this time and in this appraisal, because I would allow for the excessive cost of [fol. 1019] moving those machines between jobs, which was not done before.

Q. Where in this estimate of yours a higher estimate on tap lines shows up than on the former appraisal, is that due to the change from hand to machine excavation?

A. No, it may be in some cases due to the change from machine to hand excavation costs, and in other cases it may be due partly to that, and in some cases where machine excavation is used it may be due to the fact that in the analysis of machine excavation I have allowed for the variation of the cost per cubic yard with the size of the trench dug.

Q. Now, your costs for hand excavation per cubic yard where the hand excavation is on lengths less than 200 feet, goes from \$1.31 to \$2.138. How did you find that cost?

A. That was developed from an analysis of the labor and equipment required in excavating over 10,000 yards of such excavation on work done by the Lone Star Gas Company.

Q. Is that one of Mr. Steinberger's analyses?

A. Yes.

Q. On the lines studied in that analysis, what was the per cent of hand excavation?

A. I can not give that to you, Mr. Fitzhugh. I have before me only the summary of that. That can be obtained from Mr. Steinberger.

Q. Your unit cost for rock excavation, I believe you gave as \$3.897 per cubic yard. Give a breakdown of that figure, please.

A. That was developed from a study of the data on the excavation of 28,748.1 cubic yards of such rock excavation, [fol. 1020] in which the total direct labor was \$65,604.56, priced at rates as of January 1, 1933, and which labor costs, after adding field supervision at 7½ per cent, liability and compensation insurance at 8.48 per cent, and tools and construction plant expense at 12.1 per cent, become \$84,026.32. The charges for equipment were \$10,983.75 and this covers the use of truck, air compressor, tractor, team and driver. The cost of materials: dynamite, fuse, caps, amount to \$17,012.54, or a total cost of \$112,022.61 for the excavation of 28,748.1 cubic yards, or an average rate of \$3.897 per cubic yard.

Q. Now that is likewise based on one of Mr. Steinberger's studies, is it not?

A. It is.

Q. Are your unit costs for machine excavation and for backfill per cubic yard also based on studies which were made by Mr. Steinberger?

A. They are based on data accumulated by Mr. Steinberger and analyzed by me.

Q. And where you say you have analyzed Mr. Steinberger's work, Mr. Biddison, what you mean is that you have simply adjusted the number of hours or man hours as found by him, and the performance, to a wage schedule as determined by yourself?

A. No, I don't mean that. I mean that besides doing that, when I say I have analyzed it, besides doing that in the particular case of this backfilling and ditching work, I have gone further than that in order to determine how the cost per cubic yard for excavation and backfill vary with the size of [fol. 1021] the trench. In other words, I have sorted this data out and grouped together certain portions of it, and stuck it in groups so as to obtain values that would apply to trenches of various sizes.

Q. I thought I understood you -while ago to say you used the same prices regardless of the size of the trench?

A. No, I said that with regard to this figure for hand ditching.

Q. Well now, how did you vary the prices so as to give some recognition to the difference in the size of the trench—the difference in the trench size?

A. What are you talking about now—hand ditching or machine ditching, because in the one case I did not allow for any variation.

Q. In the case of machine excavation and backfill.

A. I have determined from a study of the data on six trenching machines that the cost per cubic yard for excavation will vary on trenches of varying sizes, from a figure of about \$.386 per cubic yard for trenches averaging 40 cubic yards per 100 lineal feet, to about \$.603 per cubic yard for trenches having an average area giving 10 cubic yards per 100 lineal feet, and I have used values in between those corresponding to the size of the trench.

Q. Do you know what the weighted average cost of machine excavation for the entire system is?

A. I worked it out once, Mr. Fitzhugh, but I have forgotten now. I will see if I can find that information for you.

Q. Could you give it anywhere approximately?

A. The weighted over-all cost on excavation?

[fol. 1022] Q. Just machine?

A. Just machine—my recollection is that it is some place between 40 and 45 cents, but I would want to look that up and not be tied to my memory on that figure.

Q. Was that part of a study you made to find the over-all cost of excavation, all types?

A. Yes.

Q. Do you remember what your final results were on the whole study?

A. No, I do not now.

Q. Will you have that study available?

A. Well, I am not sure whether I have that study here with me at Austin or not, but I will try to find out something on it.

Q. All right; did you vary the cost of rock excavation in accordance with the variation in trench size?

A. No. I used the over-all average figure determined as I have explained.

Q. Did you adjust the backfill figures to give some recognition to the variation in trench size?

A. Yes.

Q. In the same way that you did machine?

A. Yes.

Q. What is the variation that you took into consideration there?

A. That cost varies from trenches having an average of 50 cubic yards per 100 lineal feet at \$.101 per cubic yard up to \$.13 for trenches having an average of 10 cubic yards per 100 lineal feet, and that was determined by a study on backfilling.

[fol. 1023] Q. Now, this line is Dresser coupled, I believe you said?

A. Yes, sir.

Q. The laying and testing on a Dresser coupled line is different from that on a welded line, isn't it?

A. Yes, sir.

Q. Now, will you show how you obtained your unit cost for laying and testing of Dresser coupled lines—say, the 18-inch part of the line—we are still talking about Line K, shown on page 2171, and this is still a part of the breakdown of the first unit cost figure appearing on that page?

A. I have estimated a gang consisting of a foreman and thirty-nine men.

Q. Mr. Biddison, pardon me, just a minute. Did you use a different hypothetical gang for each size of pipe?

A. Yes, sir.

Q. Well, could you give the gangs for the 18, and 12, and 16—you could probably give them together easier, couldn't you? Give it any way that will be easier, one at a time or—

A. Twelve, sixteen, and eighteen, you wanted?

Q. Yes.

A. One foreman and five men at \$4.50; one man at \$7.50, and 28 men at \$3.50, amounting to \$131.50 per day. To this is added field supervision at 7½ per cent; liability and compensation insurance at 8.48 per cent; tools and construction plant expense at 12.1 per cent; one 1¼ ton truck at [fol. 1024] \$12.50; three caterpillar tractors, \$52.50; one Ford Pick-up, \$7.50; one team and driver, \$7.50; or \$80.00 for equipment charges; giving a total daily charge for labor and equipment of \$248.42. At a performance of 3,000 lineal feet per day this amounts to \$8.281 per 100 lineal feet laid. On 16-inch Dresser coupled pipe, the crew consists of one foreman at \$6.00 per day; two men at \$4.00 per day; two at \$4.50; three additional at \$4.50; and one at \$7.50; and

27 additional men at \$3.50; producing \$145.50 per day. Adding the same overhead accounts produces a sub-total of \$186.36; and with the same equipment charges at \$80.00, the total crew per day is \$266.36. At a performance of 2500 lineal feet per day this amounts to \$10.654 per 100 lineal feet. For 18-inch pipe, the crew consists of one foreman, and two men at \$4.00 per day; five men at \$4.50 per day; and one at \$7.50 per day; and 31 additional men at \$3.50 per day; amounting to \$152.50. With the same overhead percentages this amounts to \$195.32 per day; and with the same equipment charges of \$80.00 per day, the total labor and equipment per day is \$275.32, which on an average performance of 2250 lineal feet per day is \$12.236 per 100 lineal feet. These costs are less than \$4.50 per ton.

Q. About how many tons of performance were there per day on each size?

A. Well, take 16-inch pipe—

[fol. 1025] Q. It would be about the same tons performance for all, wouldn't it?

A. I don't know; I have not set it out in performance by tons. It is a little over 59 tons on the 16-inch.

Q. Well, you do get fairly close to the same performance in tons for all sizes, don't you, by the use of these gangs?

A. On the larger sizes it will run close to the same amount per ton; but the amount per ton will run up very markedly on the smaller sizes.

Q. As you go to the larger sizes of pipe, more and more you depend on machinery, don't you, Mr. Biddison?

A. Yes, sir.

Q. And the more you use machinery the less you would expect the labor per ton to be; isn't that true?

A. The more machinery you use, the less proportion of your total cost is labor, manifestly.

Q. Your labor costs, as well as your equipment costs, get progressively higher as the size of pipe increases; isn't that true?

A. Not in the sizes we have been talking about, no.

Q. Per ton performance it does?

A. The equipment charges per day are identical on the sizes we have been talking about. The gang has increased with the size of the pipe.

Q. Well, on per ton performance, both equipment and [fol. 1026] labor increase as you go to the larger sizes of pipe, isn't that true?

A. Yes; I think that is right.

Q. How did you happen to decide, Mr. Biddison, on the particular size gang to use for each size of pipe?

A. I took that size gang which it takes to handle that pipe and lay the pipe rapidly. I decided on it by setting out the crews necessary to perform each specific function.

Q. All this is hypothetical?

A. It is hypothetical in the sense that it is not taken from the Lone Star Gas Company records, if that is what you mean by hypothetical.

Q. You are not drawing from anything more specific than your general experience, are you?

A. No; but I am drawing from all that, extending over thirty years. I have had to estimate construction of pipe lines in this same manner that were later built. I have had plenty of opportunity to find out whether I could estimate or not.

Q. Well, you have had experience in the art of living for over thirty years, but you are not a doctor, are you?

A. No; and have not set myself up as one.

Q. Wouldn't it be better if you had some specific studies to depend on?

A. Well, I have had specific studies in these thirty years.

Q. Have you any of those reduced to writing, charts, or [fol. 1027] graphs, or anything of that sort?

A. Not here. This is my experience set down in general right here.

Q. You just made these all up, didn't you?

A. From my experience, yes, sir.

Q. All right, sir. How did you find your unit cost for 18-inch Dresser Couplings, as shown on page 2171, at \$5.8781 per coupling?

A. This is based on a quotation f. o. b. Bradford, Pennsylvania, of \$5.05 net; freight-rate is \$.91 per hundred pounds; the weight is 91 pounds; the amount of freight is \$8281; producing a net cost at railroad destination, January 1, 1933, of \$5.8781.

Q. The Dresser Couplings used on this line, as shown in your inventory, total up about \$176,000.00, don't they?

A. About that.

Q. In round figures. Now, on such a large purchase of couplings as that, Mr. Biddison, wouldn't the Company be assured of additional discounts.

A. No, sir; they would not.

Q. Doesn't the price that you have just given apply to small purchases of couplings?

A. It does. The Lone Star Gas Company, I believe, could put in an order for one coupling and get it at this price; but if they put in an order for ten million of them I think they could not get the price one cent cheaper.

[fol. 1028] Q. What makes you say that?

A. Because that is the price. By virtue of the fact that the Lone Star Gas Company is a large purchaser of Dresser Couplings, the Dresser Company has allowed them to place small orders, and get the same price on these small orders as on large orders.

Q. What is the largest order for Dresser Couplings that you know of this Company making?

A. I don't know what that largest purchase is.

Q. What do you know of the largest purchase any company making?

A. Well, something in the neighborhood of 150,000 couplings at one order.

Q. Do you know the price paid for those?

A. No; not now, I don't know.

Q. Don't you know that on that order there were additional discounts allowed by the Coupling people?

A. On what?

Q. Discounts for such a large order as that?

A. I know there was not.

Q. So, it is your testimony, if I understand you correctly, Mr. Biddison, that whether you buy one coupling, or ten thousand, you are going to pay exactly the same price?

A. No, sir; my testimony is not any such thing as that. My testimony is that the Dresser Company has a price for couplings to their large purchasers, and to them they will [fol. 1029] sell small quantities of couplings also at the same price. But purchasers who never purchase except in small quantities do not buy at such prices; they pay a much higher price.

Q. But the prices you have applied in your inventory, Mr. Biddison, are the prices that your Company would pay, whether it bought one coupling or large quantities?

A. That is correct. Fortunately, they can buy a small quantity of couplings at the same price that they pay for their large orders. That is a concession the manufacturers have made to them.

Q. Turn to page 2182. At the bottom of the page you show Tubing, Seamless, Plain End, 6 inch, 23 pounds per foot, in the quantity of 71,913-feet, at a unit cost of \$1.5010 per foot, total cost of \$107,941.41. Now, that represents, does it not, Mr. Biddison, the installation of tubing in a pipe line?

A. Yes, sir.

[fol. 1030] Q. Now, this tubing is the type of pipe that you usually use in an oil well; isn't that true?

A. Yes, sir.

Q. Or gas well?

A. Yes.

Q. How came the company to install this type of equipment in a pipe line?

A. I don't know, Mr. Fitzhugh.

Q. Ordinarily it would not be done, would it?

A. Well, it is quite often done, to use oil country tubular goods in pipe lines.

Q. Well, you wouldn't ordinarily use such a large amount, approximating one hundred and seven thousand dollars' worth, would you?

A. Well, not as a regular practice, no.

Q. Isn't the reason that this pipe happened to be installed, Mr. Biddison, because the tubing was available at second-hand prices and could be bought cheaper than pipe could be purchased?

A. Well, now, Mr. Fitzhugh, I stated I didn't know why it was put there, and I can't go any further than that.

Q. This is far more expensive than pipe, isn't it?

A. Considerably more so, yes.

Q. But it only serves the same purpose as pipe, doesn't it?

A. Well, it has some qualities which ordinary pipe does not have. That is the reason it costs more.

Q. Does it carry gas any better?

A. Yes; you can carry higher pressure than ordinary [fol. 1031] pipe of the same weight.

Q. Well, when you have tubing and ordinary pipe in a line you can't have any higher pressure without the line blowing out?

A. No.

Q. In this same line just above you show 18 pound per foot pipe and about one hundred thousand feet of that. Now, a line with that sort of pipe and this tubing could not

carry any higher pressure than the 18 pound pipe could stand?

A: It would depend upon which end the tubing was on.

Q. Well, which end is the tubing on in this case?

A. I don't know.

Q. Do you think it is fair, Mr. Biddison, to price this as tubing where it is serving the function only of pipe?

A. Why, certainly; it is tubing, and therefore ought to be priced as tubing. It is six inch, and therefore ought to be priced as six inch.

Q. Where the use is an unusual use and not the use ordinarily made of tubing, don't you think that ought to be taken into consideration in the finding of the price?

A. Why, no. I think the material ought to be priced at what it is.

Q. And if you had one of the pipes studded with diamonds you would still insist on that value?

A. I would still insist it ought to be classed as pipe studded with diamonds. Now, when it comes to appraising the value of a utility there may be some occasions when [fol. 1032] it is taken into account, but when you take reproduction cost new I think you ~~should~~ price it at what it is.

Q. If this tubing had been priced as line pipe sufficient to answer the purpose of this line there would have been a reduction of about forty thousand dollars below what you show; isn't that true?

A. I don't know whether it is true or not, Mr. Fitzhugh. I would have to get the location of the six inch line before I could answer.

Q. Well, you know it is approximately true?

A. No, sir. That is the reason I say I would have to investigate it. If I thought it was true I would say so.

Q. Well, what would you have to investigate?

A. Find out the location of the tubing in that line and find the conditions under which it is operated.

Q. You mean to see whether it is all in one place?

A. Yes, sir, and under what pressures it is operating. I can't answer that it is approximately true without having any facts before me. It might be true.

Q. Well, now, suppose that you put in a line 23 pound line pipe, or the nearest weight, and figure that price as against the one you found, wouldn't you have a comparable price?

A. No, sir; you would not. Twenty-three pound line pipe

would not cost the same as twenty-three pound seamless pipe and would not be as useful.

Q. Why.

A. There are different grades of material. One has a joint that is not as strong as the pipe.

[fol. 1033] Q. In the case of which?

A. In the case of line pipe there is a joint that is not as strong as the pipe and the material is not the same class of material as tubing, which does not have a longitudinal seam—it is seamless.

Q. Is there a bridge somewhere on the K. System?

A. I think so.

Q. Well, take the bridge that appears on 2102. This bridge is shown in the inventory to be a suspension bridge, at a cost of \$64,099.61. How was the value of this bridge found?

Mr. Griffith: Mr. Biddison, I think you might explain to the jury what kind of a bridge this is.

A. This bridge is a wire cable suspension bridge across the Red River near Gainesville, Texas, for the purpose of carrying a transmission line. The Red River bed with the bulk of its length across North Texas is of shifting sand bars, and it is very difficult to maintain pipe line crossings in the river bed, and the Lone Star Gas Company at one time had river crossings in the river bed near this point, but on account of the cost of maintaining those crossings it built this suspension bridge to carry their lines across the river.

A. Along that line, Mr. Biddison, there are about six such bridges as this appearing in the inventory, aren't there—that is, suspension bridges?

A. I believe it is four of these suspension bridges. There are other bridges, smaller bridges.

[fol. 1034] Q. As an ordinary thing, you don't have to construct a bridge, except where there are extraordinary conditions?

A. Yes, only in case of unstable stream beds. All of these suspension bridges have been set up in this valuation at their total cost to the company as found on the company's records. In the case of this bridge across the Red River at Gainesville I was afforded an opportunity to see the cost record sheets of the contractor who constructed it. He had a substantial loss shown on his analysis of his own con-

struction records, and, taking the performance shown by his actual construction records and pricing them out on the basis of prices as of January 1, 1933, I found a substantial increase in cost over the actual cost on the company's books for this bridge over that contractor's bid. On that basis, the suspension bridges have, therefore, been priced at their cost.

Q. What were the construction conditions that this contractor encountered that made him show a loss?

A. Well, he had some losses up there—around twenty-eight hundred dollar flood loss.

Q. That is, an unusual condition came up that he had not anticipated in putting in his bid?

A. No, it is one of the conditions that occur in bridge construction.

Q. Well, did you inquire—make the same sort of inquiry on the other bridges contained in the exhibit?

[fol. 1035] A. No, sir. I didn't have an opportunity to do that in regard to the other bridges. But in the case of this bridge, where the contractor's actual costs were over twenty thousand dollars in excess of his bid price, I decided that it would be very reasonable to take the book cost on all bridges.

Q. What was the actual cost as per the company's books?

A. As set up on the company's books from that examination, \$64,099.61.

Q. Now, as shown in your inventory that cost is complete, including designing fees and the cost of soundings. Did the contractor furnish all those?

A. No.

Q. Well, doesn't this include something in addition to the contractor's cost?

A. This includes the contractor's cost, with the cost paid for the design of the structure, which was by parties other than the designer, and of the securing of the information from which to make the design.

Q. So it does include more than the contractor's cost?

A. Well, it includes those three items.

Q. What was the contractor's cost alone?

A. I haven't that separated here; I can't tell you now.

Q. Does that figure include all engineering and overheads?

A. No, it does not.

Q. Why do you say that?

A. I say that because it does not include them.

[fol. 1036] Q. Well, where it shows designing fees, doesn't it include all services that are grouped in your appraisal as engineering supervision?

A. No. This designing fee was paid to a bridge designer for the purpose of designing this class of structure. It does not include the company's general engineering supervision during construction.

Q. Now, in the transmission line equipment of the company there are quite a number of gas cleaners, are there not?

A. Yes, sir.

Q. And on page 2044 you show three such gas cleaners at a unit cost of \$2440.30 each. Just what are those gas cleaners?

A. Well, gas cleaners are cylindrical tanks containing baffles and kept weighted with oil, upon which the oil may impinge, and this oil then will hold the dust contained in the gas. They are for the purpose of removal of dust from the gas.

[fol. 1037] Q. Are these cleaners patented cleaners?

A. I believe there is a patent on them.

Q. Now, what part of the unit cost which you show, is to be attributed to the cost of the cleaner itself?

* * * * *

A. This figure of \$7320.90 is comprised of \$4,539.36 for the cleaners themselves, \$2,280.03 for fittings and liquid tanks in connection with the cleaners, \$421.72 for headers and cleaner foundation, and \$9.79 for liquid tank platform. The delivered costs of the cleaners are \$1373.25 each, the estimated cost of hauling is \$28.88, the estimated cost of erection in place is \$56.06, and the stores expense on the cost of the cleaners at 4 per cent is \$54.93, which makes a cost of \$1513.12 each, or \$4539.36 for the cleaners.

Q. Where did you find your base cost of \$1373.25 per [fol. 1038] cleaner?

A. That is on a quotation by the Acme Separator Company, specifically on a 48 by— a 48-inch with 12-inch connection.

Q. Does the Lone Star Gas Company get a special discount on these cleaners?

A. I don't know what discounts they might get in ordinary purchases. These are from quotations by the manufacturers of the separators.

Q. Well, do you know, Mr. Biddison, whether they would actually have to pay on an actual purchase to-day \$1373.00 for one of these cleaners?

A. Well, I think they would; that is what the manufacturers said they would have to pay.

Q. But you don't know, do you, whether that is before or after discounts which the Company might have?

A. Well, that is after the two per cent cash discount.

Q. Well, you don't know whether there is a preferential discount or not in order for the Lone Star Gas Company, do you?

A. Well, the manufacturer refused to quote anything further than the two per cent discount. That is all I know about it.

Q. Did you yourself write the letter to the manufacturer?

A. No, sir, I did not.

Q. Who did that?

[fol. 1039] A. I believe Mr. Paul Richey wrote that letter individually. He can answer the question for you, at any rate.

Q. That depends, again, on one of Mr. Richey's prices?

A. Yes, these are prices derived by him in the routine course of development of the cost of this whole job.

Q. Now, on page 2044, the same page, there appears under Special Construction, Trinity River Crossing, 12-inch and 16-inch, 578 feet, at a unit cost of \$10.9103 per foot, or a total cost of \$6306.15; on the next page, 2045—on two pages past that, on 2046 there is Special Construction, Diversion Channel of the Trinity Crossing, 1120 feet at a unit cost of \$6.9753 per foot, as compared with the unit cost on the other page of \$10.9103 per foot. Now, those crossings are right side by side, aren't they, Mr. Biddison?

A. No, I think not. One of these crossings, I believe, is of the—

Q. Both crossings are on the Diversion Channel, aren't they?

A. I am not sure whether they are or not. I am trying to find out about that now.

Q. Well, at any rate, Mr. Biddison, can you explain why there is a difference in these unit costs, both being about the same size of pipe apparently?

A. Well, they are different lengths.

[fol. 1040] Q. But the unit cost in one case is Ten Dollars a foot and in the other is six dollars a foot, plus?

A. Well, one of these crossings contains—and this is the 12 and 16 inch crossing—contains 351 feet of 12 inch 37.453 pound pipe at \$2.4409 per foot or \$857.14, and 227 feet of 42.053 pound 16 inch pipe at \$2.8188 per lineal foot or \$639.87, and containing twelve 16-inch welds, amounting to \$68.58, and eighteen 12-inch welds amounting to \$79.76; and 13,419 cubic yards of wet excavation at 30 cents, and miscellaneous equipment, concrete blocks and so forth as anchorage, all of which amounts to \$6,306.15. Now that crossing is 578 feet long and so that is at a rate of \$10.9013 per foot. Now the other crossing contains a different bill of material and priced out by units the same way and dividing the total by the number of feet, it works out at a different unit price per foot.

Q. Nevertheless, Mr. Biddison, the one that has the twelve inch pipe in it, or the smaller size of pipe, is the one that shows to have a higher unit cost; isn't that true?

A. That might be. Wait until I find out—this crossing on Line Second C, which consists of 12 and 16 inch pipe, contains 607 feet of 16 inch 42.053 pound pipe at \$2.8188 per foot or \$1711.01, and 513 feet of 12 inch 37.453 pound pipe at \$2.4409 per foot amounting to \$1252.18; twenty-six 12-inch welds, amounting to \$115.21; and thirty-six 16-inch welds, amounting to \$172.19; 13,586 cubic yards of wet excavation at 30 cents per cubic yard amounting to \$4,075.80; miscellaneous concrete work for anchorage, so that the total amount is \$7,812.34; and the crossing is 1120 feet long, [fol. 1041] which is an average price of \$6.9753 per foot.

Q. Well then, the difference can all be found in the fact that in the computation of Line Second C, where you have 1120 feet, you apply a price of 30 cents per cubic yard for wet excavation, while on the other computation you only had 578 feet of excavation figured at the same rate?

A. Largely so, yes.

Q. You had the same yardage in each case, didn't you, or approximately 13,500 cubic yards of wet excavation in each case?

A. In the second one, there was 13,586 cubic yards of excavation; in the other there is 13,419 cubic yards of excavation.

Q. Now, why is it, Mr. Biddison, that where one of these lines is practically twice as long as the other that you have practically the same amount of cubic yards of excavation?

A. Well, I could not explain that to you now without the detailed maps before me, and I do not have them before me.

Q. I believe the next classification of property is compressor station equipment in Volume 5. The Alvord station, the first one shown, is a comparatively small station is it not?

A. Yes.

Q. Will you turn over then, Mr. Biddison, to the Joshua station; that is a sizable one, isn't it?

A. It is.

Q. On page 2984 the first item shown is the station site, land. The amount of \$1,150.00 represents, doesn't it [fol. 1042] \$1000.00 paid for the land, plus \$150.00 added by you for the purchase price?

A. I will check that in just a moment—that is correct.

Q. Now the improvements shown in the amount of \$3,662.80 consist of fences, sidewalks and so forth, do they not?

A. Yes.

Q. In your direct examination I believe you said at the Caddo plant you applied 57.1 percent of the cost of fence for installation costs?

A. Yes.

Q. Did you do the same thing in this instance?

A. Yes.

Q. The next item appearing on the same page is the compressor building, in the amount of \$18,804.85. How was that price found?

[fol. 1043] A. This building is priced on an estimate by Austin Brothers as of January 1, 1933, erected on concrete foundation, at \$10,500.00; plus charge of *sotre's* expense of \$420.00; plus estimated cost of painting inside and out, 133.57 squares at \$5.88 a square, \$785.39. This quotation does not include hauling to site, for hauling is estimated at 150,000 pounds at \$.2769 per hundred-weight, \$415.35, or \$12,120.74. In connection with the installation of this building there are 227 cubic yards of excavation at \$1.33—\$301.91; 6107 square feet of form work at \$.13, \$793.91; 133 cubic yards of reinforced concrete at \$14.66, \$1949.78; 280 cubic yards of excavation by scrapers, at \$.26 a cubic yard, \$72.80; 9248 square feet of 5½ inch concrete floor, at 38 cents per square foot, \$3,514.24; 1.2 M. brick used

as flooring, at \$42.89 a thousand, \$51.47; producing a total of \$18,804.85.

Q. What was the first figure that you gave, the \$10,500.00?

A. An estimate by Austin Brothers as of January 1, 1933.

Q. An estimate to do what? To put up the building?

A. To furnish the material and put up the building.

Q. Did you obtain quotations from anybody besides the Austin Company?

A. No, sir.

Q. This building has a concrete floor, does it?

A. Partly concrete and partly brick—mostly concrete.

[fol. 1044] Q. The flooring in total cost is one of the biggest items in the total amount, isn't it?

A. Yes.

Q. How did you get your cost of 38 cents per square foot for flooring?

A. This is based upon a cost of one cent per square foot for grading and tamping; 4.2 cents per square foot for wire mesh reinforcement; 23 cents per square foot for the base concrete, 4½ inches thick, on the basis of \$16.78 per cubic yard; 4 cents per square foot for the finish coat for flooring, and 5.9 cents per square foot for the finishing of the finish coat.

Q. How thick a finish coat are you figuring on, Mr. Bidson?

A. One inch.

Q. Is that what the finish coat actually is?

A. We didn't break this floor up to find out; but that is the common finish for a finish coat on that kind of flooring.

Q. That finish coat is at the rate of 10 cents per square foot?

A. Almost.

Q. Or 9.9 cent per square foot?

A. That is right.

Q. On page 2988, you show a number of Compressor Engines. In the first lot there are 8 units at \$9,800.93 per unit. Does that price represent any discount given the Lone Star Gas Company by the Cooper Bessemer people, [fol. 1045] manufacturers of these compressor units?

A. Discount from what?

Q. Discounts from the quoted prices?

A. No, sir; this represents quoted price, and the date of this appraisal there is no discount available to the Lone Star Gas Company by virtue of quantity purchases.

Q. How many compressor units are there in the whole Lone Star Gas Company system?

A. I don't really know.

Q. Approximately how many?

A. I don't know; I have not added them up; there is a large number of them.

Q. One hundred or a hundred and fifty?

A. A hundred or so, I would guess, yes.

Q. Is it your honest opinion that upon a purchase of that size of such expensive engines that there would not be some special discounts given the Company on that account?

A. It is my honest opinion after a conference with the Cooper Bessemer Company officials that there would be no discounts whatever below these quoted prices to anybody on any number.

Q. In the past the Lone Star Gas Company has consistently gotten discounts from them, has it not?

A. Yes, sir; for a while the Lone Star Gas Company got a discount below the prices generally available to other purchasers, that is true; but that arrangement has expired.

Q. But that will not prevail in the future?

[fol. 1046] A. That is my testimony.

Q. And it does not prevail at the present time?

A. That is my testimony precisely.

Q. What did you figure on these particular units would be the cost of haul, or hauling these machines to the point of installation?

A. The estimated hauling costs on this group of units is \$1,575.06.

Q. That is the total cost for these eight units, is it?

A. Yes, sir.

Q. About what is that per ton mile?

A. This is at the rate of \$7.5655 per ton for unloading, hauling, and unloading on a haul of 1.52 miles.

Q. Now, those costs are based, are they not, on a study made by Mr. Steinberger?

A. No.

Q. What are they based on?

A. Based on some data obtained in part by Mr. Steinberger, and part obtained by myself.

Q. Well, explain what you mean, Mr. Biddison?

A. Well, in effect, the men who have been hauling that class of equipment and unloading it submitted data which has been analyzed. The data was not data incurred in the routine cost accounting work which Mr. Steinberger has been carrying on. In substance, the data is this: That to unload from cars to trucks, or to unload from those [fol. 1047] trucks to the ground at the plant site a 160-horse-power engine weighing 25.9 tons, the following crew is required: one foreman for 10 hours, 8 laborers for 10 hours, two truck-drivers for 10 hours, amounting to \$43.00 per day. Adding to that for plant supervision 16.1 per cent; tools and construction plant expense 16.3 per cent; compensation and liability insurance 8.48 per cent; one 2½ ton truck at \$17.50; one 1¼ ton truck at \$12.50; and five per cent allowance for contingencies, on top of the sub-total of \$90.58 at that point; we have a total cost, to either unload from cars to truck, or to unload from truck at the site, of \$95.11; which on 25.9 tons is 3.67 and a fraction cents. Now, covering both operations of unloading from cars to trucks, and from trucks to unloading at destination, amounts to \$7.3444 per ton.

[fol. 1048] Q. Mr. Biddison, in going back through the record on testimony already taken we find that the explanation that you made of the cost for rights of way is a little bit indefinite. Now, as I understand it, you took the actual costs showing upon the books of the Company and multiplied that by three to get the cost for gathering lines rights of way?

A. That is right.

Q. Now, the part that is not plain to us is just exactly what costs were included in the costs as per the books. Will you clarify that for us?

A. The costs taken were the purchase prices paid to the land owner.

Q. Now, does it include all of the legal expenses for the examination of abstracts?

A. No, sir.

Q. Does it include all of the acquisition costs?

[fol. 1049] A. No, sir.

Q. Is there any acquisition costs?

A. No acquisition costs included in the base figure taken from the books and multiplied by three. The multiplication by three is to make allowance in the estimate for crop damage and expenses of acquisition.

Q. But in the cost as per the books, the base figure, is there any cost of acquisition at all?

A. In the costs we have taken from the books there are no expenses of acquisition.

Q. Now, the multiplication by three is for the purpose of taking care of acquisition costs, examination of titles, recording fees, some clearing—

A. And damages.

Q. —and damages?

A. Yes, sir.

Q. Does it cover any additional items besides those mentioned?

A. No, sir; I believe that is the crop.

* * * * *

Q. Is it a correct statement to say that this multiplication of the base price, being the cost of right of way as paid to the land owner, as shown by the books, is made to include all of the costs, including clearing?

A. It is.

[fol. 1050] Q. Now, on page 1100, that is your summary sheet for the Transmission System Rights of Way?

A. For Transmission System Rights of Way, yes, sir.

Q. Did you work out on main and tap lines for rights of way the actual average cost paid per rod to the land owner?

A. I have developed as the actual cost of right of way and recording for main and tap lines \$.2776 per rod.

Q. What part of that was for recording?

A. I don't have it separated here.

Q. Now, then, if you multiplied that figure by three it comes out approximately 83 cents per rod, does it not?

A. Yes; \$.8328.

Q. That compares with the computed cost that you used of \$.9268 per rod, or about 93 cents per rod—that 83 compares with practically 93 that you computed per rod?

A. Yes, sir.

Q. Now, this method of three times the cost was a good method in the matter of gathering lines. Wouldn't it also

be a good system for the computation of the costs of rights of way for the transmission lines rights of way?

A. No; it would not.

Q. Why do you say that?

A. Well, because a study of the actual costs on this transmission system rights of way include the cost of right of way, and recording, cost of acquisition, cost of clearing, cost of damages and rebuilding fences, and is \$.9268 in [fol. 1051] Texas per rod. Now, this is not a study of the entire right of way purchases by the Company, and when we apply this figure to the entire right of way purchases, I think we should make an allowance for contingencies in making such purchases, and for the probability of condemnation costs. Now, as a general proposition, the cost of buying rights of way on these small well lines—the cost of rights of way on these small well lines is not as high as it is in cross country transmission lines.

Q. Well now, Mr. Biddison, if you multiplied your base figure of .2776 by three to get the 83 cents amount we have just been talking about, that compares with \$.8323 that you found for gathering lines, doesn't it?

A. It does.

Q. So, if you use the same methods you would come out about the same figures?

A. If you use the same figures and same method you ought to get the same answer. The question is the proper application of the answer. I have derived answers in each case which I think are suitable and proper.

Q. Yes, sir; and furthermore, in addition to the 93 cent figure you found for the transmission line right of way in Texas, you added 20 per cent for contingencies, didn't you?

A. Yes, sir.

Q. What are the contingencies that could possibly happen [fol. 1052] in rights of way, Mr. Biddison, besides all of the costs you have already named and actually studied?

A. Well, the contingencies can occur in purchases of rights of way almost without number. You have no assurance at all if you go back and purchase any single piece of right of way on this system at its present location you might not have to condemn a large number of contracts.

Q. Where you made actual studies of actual costs to the Company, those have included all the things that might actually happen in connection with rights of way?

A. They have included the cost of right of way, and recording, cost of acquisition, cost of clearing, cost of damages and rebuilding fences. They have not included any expenses incurred in condemnation proceedings; therefore, I have allowed above the sum of those figures an amount of money to cover not only the possibility but the probability of court costs in securing rights of way.

Q. Mr. Biddison, how many rods of the transmission system rights of way; as shown by the records of the Company, were actually condemned?

A. I don't know.

Q. How many rods of the gathering lines of the Company were actually condemned?

A. I don't know.

Q. And if any of the rodage in your main and tap lines [fol. 1053] figure of \$.2776 was condemned, the costs of condemnation are in that figure, are they not?

A. No; the amount of money paid to the land-owner is in that figure—not the cost of condemnation.

Q. How many feet in a rod, Mr. Biddison?

A. Sixteen and a half.

Q. Under the present set-up for prices on steel pipe, in the purchase of steel pipe is the jobber entitled or permitted to divide his commission with the purchaser, or in the case of the Lone Star Gas Company with the Lone Star Gas Company?

A. I think not.

Q. Under the present schedule what is the jobber's commission?

A. The jobber's commission varies with the class of goods. I believe on—

Q. On pipe?

A. On plain end pipe, I think the jobber's commission is three per cent; that is my recollection of it.

Q. Could you look that up to make certain, Mr. Biddison?

A. Yes; I can get it. I can get a schedule that states that. I don't have it now.

Mr. Griffith: Mr. Paul Richey will have that for us.

Q. The jobber who handles purchases made by your Company is Mr. Simpson of the Lone Star Gas Corporation?

A. No, sir; he is not a pipe jobber. He is purchasing [fol. 1054] agent for the Lone Star Gas Company, and not a jobber in any sense.

Q. What is a jobber?

A. A jobber is a sales agent for a manufacturer. A jobber represents the manufacturer of material; the purchasing agent represents the buyer, and Mr. Simpson represents the buyer.

Q. Is Mr. Simpson of the Corporation paid a commission on pipe sales that he makes for the benefit of the pipe manufacturers?

A. He does not make any sales for the benefit of pipe manufacturers. He buys as the agent for the users of pipe.

Q. Is he paid commissions by the companies for whom he makes purchases for representing them in the purchase of pipe?

A. I know some companies use to pay him a commission of some sort for making their purchases for them. I don't know whether they do it at this time or not.

Mr. Griffith: But they were not connected with the Lone Star Gas Corporation?

A. No; they were not.

Q. How much cheaper can Mr. Simpson buy pipe for the Lone Star Gas Company than it could buy for itself if it bought directly?

A. I don't know. I do know, however, that Mr. Simpson has facilities in buying pipe, by virtue of his location and his familiarity with the business, which enables him at any [fol. 1054a] specific time to get what is probably rock-bottom prices on pipe.

Q. Can he buy at discounts below the quoted price?

A. I think the prices he has bought pipe at have been the prices quoted him. I don't know what you mean by buying below the quoted price. He buys on quotation.

Q. Could he as of the date of January 1, 1933, the date of your appraisal, have bought pipe at discounts below the quoted prices used by you for pipe in your appraisal?

A. I think he could have gotten some concession from those prices in case of actual purchases.

[fol. 1055] Q. Mr. Biddison, if you are correct that there is a jobber's commission of from three to five per cent, or

whatever it is, wherever your company is making a purchase of a substantial quantity of pipe, such as would be made if the company's plant were to be reproduced new, and where the purchase of pipe would run upwards probably of ten to twenty millions of dollars, under those circumstances it would be worth while for your company to set up a subsidiary company to act as a jobbing concern, would it not?

A. Why, it would be only in case you would work that scheme on the pipe manufacturer.

Q. Even with the local companies that work here in Austin or Fort Worth or Dallas or any other Texas city the jobber's commission of five per cent is allowed, is it not, by the manufacturer?

A. The schedule states that a commission may be allowed to the jobber up to certain limits. It does not say that anybody can go out and set themselves up as a jobber and get those prices.

[fol. 1056] Q. Well, isn't it a fact, Mr. Biddison, that all you have to do to be a jobber is to buy a certain purchase of pipe from a pipe manufacturer and sell it to somebody else?

A. No. To set yourself up as a jobber you have to make arrangements with the manufacturers to handle their line of goods and get the agency for their line of goods. Now, I am quite certain that the whole United States is pretty well covered with factory representatives of pipe manufacturers, or, in other words, jobbers for those various pipe mills. The point about that commission is that if the jobber does the work of making the sale the pipe mills will pay him a commission for doing that work. If the pipe mill does the work itself of making the sale I don't see why they should allow any commission to anybody for doing what they have done themselves.

Q. Well, it is worth something to the manufacturer to sew up the business, isn't it?

A. Certainly; that is the reason for his allowing a commission on it.

Q. Yes, sir. Well, if a subsidiary were to be set up to assure to the manufacturer of pipe all the business of the Lone Star Gas Company it would be worth something; wouldn't it?

A. I suppose it would.

Q. Probably greatly in excess of any five per cent jobber's discount, wouldn't it?

A. Well, I don't know why it would be worth any more to sell through one jobber than through another.

[fol. 1057] Q. All right. Now, Mr. Biddison, in your examination prior hereto you have stated that the differential between electric welded pipe and lap welded pipe was in the amount of about fifteen dollars per ton net?

A. Yes, sir. That differential was maintained for several years.

Q. What is the differential today?

A. Two dollars per ton.

Q. So that differential has dropped from fifteen to two dollars per ton?

A. Yes, sir. There is also an added differential for double length pipe, and most electric welded pipe is double length pipe, so that the bulk of the electric welded pipe would carry two differentials.

Q. What is the added differential for double length pipe?

A. Two dollars a ton, I believe. I think that two dollars per ton on the double length may be subject to some slight discounts which the two dollars for electric welded pipe would not carry.

Q. What is the differential today for seamless pipe?

A. I don't remember.

Q. Have you allowed in your appraisal, Mr. Biddison, two and a half per cent for omissions and contingencies on all transmission lines regardless of the size of line or of the type of line as to whether it is a welded dresser coupled or threaded and coupled line?

A. Yes.

Q. And you have also used, have you not, Mr. Biddison, [fol. 1058] a uniform price throughout your appraisal per ton for unloading pipe from cars, regardless of the size of the pipe?

A. Yes, sir. I should explain that that figure is slightly different as between Oklahoma and Texas on account of the difference in insurance rates, but aside from that difference the statement is correct.

Q. You have been asked the question heretofore, Mr. Biddison, as to what the approximate amount of the total omissions and contingencies in your whole appraisal is. Have you figured that out yet?

A. No, I have not given it any consideration since the question at all.

Q. Have you worked out as yet, Mr. Biddison, the per cent of hand excavation on the field lines?

A. That is not complete. I am having it worked out, but it is not quite ready yet.

Q. Have you found as yet the per cent of hand excavation in the studies made for the cost of excavation on the field lines—the transmission lines, rather?

A. No; I didn't know that I was asked to get that figure.

Q. Do you have that information with you now?

A. I believe the data is here. If it is desired, I will try to get that. I may be able to have that for you by morning—I am not sure.

Q. Yesterday, I believe, when we quit, Mr. Biddison, we were talking about the compressor station at Joshua.

A. Yes.

Q. On page 2988, Mr. Biddison.

[fol. 1059] A. What page?

Q. Page 2988. At the bottom of the page you have a notation, concrete foundation, including excavation, 132 cubic yards, at \$17.35. Now, that cost, or one similar to it, is included everywhere where you have installation of these units, is it not?

A. Yes, sir.

Q. How was this particular unit cost of \$17.35 per cubic yard derived.

A. This particular figure is developed as follows: Excavation, 172 cubic yards, at \$1.3318, \$229.07; forms, 1760 square feet, at 15 cents per square foot, \$264.00; concrete 132 cubic yards, at \$11.15, \$1,471.80; 192 lineal feet of three inch pipe sleeves—this is casing around the foundation bolts—at seven cents, \$13.44; 744 square feet of sand finish on concrete, at \$.0338, \$25.15; two cubic yards of grouting; at \$34.38, \$68.76; 744 squares of painting, at \$.0384, \$28.57; four sets of foundation bolts, at \$47.24 per set, \$188.96; making a total of \$2,289.75, which, for the 132 cubic yards, is \$17.35 per cubic yard.

Mr. Griffith: What are those foundation bolts of which you speak?

A. They are the bolts that hold the engine itself down to the foundation.

[fol. 1060] Q. Of the \$11.15 for concrete cost, how much of that is material?

A. \$4.37 of labor and \$6.78 is material.

Q. All right. Now, the 132 yards of concrete in this batch serve as foundations for air compressors, is that right?

A. Yes.

Q. That is, this cubic yardage was divided into four batches of concrete, wasn't it?

A. Yes, sir.

Q. How would you pour that concrete, Mr. Biddison? Wouldn't you just make your—run your mixing machine up to the forms and pour your concrete directly?

A. No, you would do some wheeling of your mixed concrete on that.

Q. On the units shown just above on the same page, the same station, where you have 8 units with a cubic yardage of 290.4, did you use the same labor cost per yard?

A. Yes, sir, the cost for the concrete itself is identical in both jobs.

Q. \$4.37 per cubic yard for labor?

A. Yes, sir.

Q. On the next page—2989, where you have 152 cubic yards as foundations for four units—those foundations are slightly larger, are they not?

A. A little bit; almost the same size.

[fol. 1061] Q. And on that concrete you used \$4.37 for labor per cubic yard, also?

A. Yes, sir.

Q. Is \$4.37 the amount for labor per cubic yard used throughout in the foundations for compressor stations?

A. Yes, sir—no, not for all foundations; for the large foundations, such as engine or large building foundations; it is not the price used for labor on concrete work in the small batches for small piers and work of that sort.

Q. Yes, sir, I understand that; but it is used as the price per cubic yard for all foundations for compressor engines?

A. Yes, sir.

Q. What was the cost of labor per cubic yard on the small installations.

A. On what I have classed as medium batch work, which is work down to, I believe, one yard in size, \$9.49, and on small piers and work of that sort, \$11.09.

Q. Now, that is not just the labor cost, is it?

A. Yes, sir, that is labor I am talking about.

Q. At the Petrolia Compressing Station, the foundations for the compressors are considerably larger than at those located at other stations, are they not?

A. Yes, they are much larger.

Q. Did you use \$4.37 for labor per cubic yard for the [fol. 1062] concrete at those foundations?

A. Yes, sir.

Q. Now, those foundations run in excess of 300 cubic yards per foundation, do they not?

A. Either in excess or very close to that figure.

Q. And there are several thousand cubic yards of such foundations at the Petrolia Station, are there not?

A. Well, there is—no, not several thousand; there is—

Q. Well, there are over a thousand, anyway, aren't there?

A. Well, offhand, I would say close to two thousand. I don't think that is several thousand.

Q. On pages 2989 and 2990 you show some Babcock and Wilcox Boilers. There is nothing particularly distinctive about these boilers—that is, the Babcock and Wilcox boiler is no different from any other boiler, is it?

A. Yes.

Q. What is the distinctive feature of the Babcock and Wilcox boiler?

A. Well, the distinctive feature of the Babcock and Wilcox boiler is the manner in which the tubes and the tube headers are arranged. There are other boilers manufactured whose general appearance is similar to these.

Q. Well; what I was getting at, Mr. Biddison, you didn't get any competitive prices on those boilers, did you?

[fol. 1063] A. No.

Q. You took the Babcock and Wilcox figures on them?

A. Yes, sir.

Q. Now, these boilers, or rather the first boiler at the Joshua Compressing Station Plant is shown in your appraisal in the amount of \$32,760.00. If your Company were actually to be reproducing a plant such as the Joshua Compressing Station and they were actually going to make a purchase of a boiler like that, wouldn't you get competitive prices?

A. Why, you would get a quotation from Babcock and Wilcox Company, or from their representative, and you would also have quotations from people who manufacture

other lines of boilers, yes. I don't think there is any question about that.

Q. Wouldn't you be able to get a boiler for a much cheaper price than the \$32,760.00 you show in your appraisal?

A. I am certain you wouldn't get a boiler with the same features that this one has. You can go out and buy another 440 horse-power boiler cheaper than that; without doubt you can go and buy somebody else's boiler of 440 horse-power at a higher price.

Q. Well, the point is, isn't there a difference between preparing an estimate where there is nothing at stake and nothing involved and not going to spend any money, and under different conditions where you are actually going to [fol. 1064] spend the money and build something and want the work done?

A. No, there is not. Now, at the same time I appreciate the fact that when one is actually placing orders, that there is occasionally an opportunity to chisel a little bit here and a little bit there, but the prices for this class of equipment are in general stable, fixed prices.

Q. You have not in your appraisal at any place asserted that there would be any chiseling done, have you?

A. No.

Q. Or any savings at all, or any bargains?

A. As far as possible, we got the benefit of the bargains in obtaining the prices. There might be a few items on which, when orders were actually placed, some slight concessions might be had, but they would be minute in total.

Q. Now, just point out, Mr. Biddison, anywhere in your appraisal a really good bargain.

A. Well, take page 2990, the prices for these boilers we have just been talking about.

Q. Well, couldn't anybody buy a boiler of that type for that price?

A. Yes, and I think it is fully worth it.

Q. And that is your idea of what a bargain is, just getting a thing at the ordinary bargain price that anybody [fol. 1065] can buy it at?

A. Getting your money's worth, yes, sir; that is my idea of a bargain—getting your money's worth.

Q. All right. On the Joshua Compressor Station there is shown to be a number of different kinds of piping which serve, as shown in your appraisal, as Air Starting Lines,

Fuel Lines, Air Intake Lines, Water Lines, Boiler Feed Water Lines, Steam Lines, Steam Exhaust Lines, Low Pressure Suction Lines, High Pressure Discharge Lines, Exhaust Lines, Auxiliary Water Lines, Drain Lines, Fuel Service Lines, and Water Service Lines, and perhaps some others. How did you get the labor costs for the installations of that piping?

A. As an example, suppose we take Water Lines, including Engine and Compressor Connections Above Ground,—the total amount of fittings is \$5360.89, of which \$1450.20 consists of welds, leaving a balance of \$4910.69 of materials subject to stores expense at four per cent, amounting to \$196.43. A study of the ratio of labor cost to installation cost on three stations, Brad Station, Sipe Springs Station, and Joshua No. 2 Station, shows a ratio of labor cost to material cost of 32.48 per cent. This amount applied to \$5360.89 of materials, plus \$194.43 of stores expense gives \$1805.02 of installation charge.

Q. Mr. Biddison, does that installation percentage of 32.48 per cent include welding?

A. No, sir, it does not.

Q. No welding at all, of any description?

[fol. 1066] A. No, sir, it does not include welding. I still have an item in that connection of \$22.10 which I have to run down. The \$22.10 item consists of the hauling expense on \$5,360.89 of pipe and equipment, less \$450.20 of welded fittings, or \$4,910.69 of materials, at .45 per cent.

Q. Have you any allowance in this, Mr. Biddison, for omissions and contingencies?

A. No, sir.

Q. I mean in the \$2023.00.

A. No sir. Yes, there is.

Q. You still have not accounted for about \$200.

A. There is $2\frac{1}{2}$ per cent allowance in that— $2\frac{1}{2}$ per cent.

Q. Does that make up the \$200 that you have not yet accounted for? The total you gave was \$1805.00 and then you gave us \$22.10 additional, whereas your total installation cost was \$2023.

A. I gave you \$196.45 as the first item.

Q. Is that stores?

A. Stores expense, yes.

Q. Well, that completes the total then, does it?

A. It does.

Q. Turn to Volume 6, please sir, the Petrolia compressing

station shown on page 3101, at a total cost of \$1,056,638.41. The main compressor building shown on page 3102 is shown in the amount of \$56,571.82, is it not?

A. Yes.

Q. Did you get this price from an estimate given you by the Austin people?

[fol. 1067] A. No, sir.

Q. Where did you get the estimate on this building?

A. This is an estimate by the Mosher Steel Manufacturing Company of Dallas.

Q. Did you get a bid from anybody else?

A. No, sir.

Q. Were they the original constructors of this building as originally built?

A. No, the original structure was built by a concern at Fort Worth, and I believe their name was Southwest Construction Company. They were the construction organization of one of the packing concerns over there at the time. They were the original builders. If I remember correctly, Mosher built an addition to it.

Q. This building is almost entirely corrugated iron, is it not?

A. Yes.

Q. Do you know what the cost included in this estimate was per square for corrugated iron, installed?

A. No, the estimate does not break that down.

Q. You really do not have a breakdown on any of the costs in this building?

A. On some of the other buildings I do, yes. I can give you a breakdown on them.

Q. This is one of the largest buildings, isn't it?

A. It is the largest compressor building, yes.

Q. Have you on any of these buildings which are constructed of corrugated iron figured the cost per square for iron installed?

[fol. 1068] A. Yes.

Q. Did you use the same cost that you used on measuring station regulator structures?

A. No.

Q. What is the cost that you used?

A. \$3.16 per square for labor of installation.

Q. That compares with the \$3.54 used for the measuring station structures, does it not?

A. Yes, it compares in this way—that for the placing on

these structures of the corrugated iron on these compressor station buildings the estimated cost is \$2.75 per square, to which is added 15 per cent additionally or 41 cents per square to cover flashing and the incidental metal work to be done otherwise than on the corrugated sheets. The truly comparable figure is \$2.75 per square on the compressor buildings as against \$3.54 on the small transmission measuring station buildings.

Q. The \$3.54 per square labor cost for the measuring station structures included the metal work and the flashing done on them, didn't it?

A. Well, there wasn't any flashing work done on those structures.

Q. None at all?

A. Well, there may have been some in some few instances, but it would be only a small amount.

Q. And your costs include that?

A. Yes, if there is any.

Q. Your average measuring station structure is about four feet square by about seven or eight feet high, isn't it? [fol. 1069] A. Well, I believe the average would run nearer to six feet by eight feet.

Q. Six by eight by about seven or eight feet high.

A. Yes, about eight feet high.

Q. And your average city gate measuring station structure is about what size?

A. Oh, about ten by thirty.

Q. Now, what is about the average size of these compressor station structures?—Well, to give the jury a general idea, Mr. Biddison, isn't the ordinary structure about the width of this room and about the same height or a little less, and possibly somewhat longer?

A. Yes, maybe twice as long.

Q. They are sizable structures, aren't they?

A. Yes.

Q. And these corrugated iron ones have corrugated sides, ends and roof?

A. Yes.

Q. Turn to the main units of the Petrolia compressing station shown on page 3123, Mr. Biddison. On the four units shown in the middle of that page, totalling a cost of \$310,791.68 or a unit cost of \$77,697.92, I will ask you, Mr. Biddison, if you have included in your unit cost a four per

813

cent allowance for stores?—Can't you answer that question, Mr. Biddison, without having to look it up?

A. No sir, I want to look it up and see what the stores allowance was on it. The total stores expense on these four [fol. 1070] units was \$5,109.77.

Q. Now, how was that amount found?—Or, Mr. Biddison, before you look that up, how do you think it ought to have been found?

A. Well, I think it ought to have been found by applying a percentage to the engines as developed by a study of what the stores expense has actually been on compressing station units.

Q. Well, now, see if you really did that.

A. That is what I am doing. Yes, that is what was done.

Q. Mr. Biddison, what were the computations you had to make there; were you working back to see what you did?

A. No, I am applying 1.8 per cent to the cost of this material, F. O. B. railway siding.

Q. Where did you get the 1.8?

A. 1.8 is the figure derived by a study of the stores expense on compressing stations.

Q. Secured by a hypothetical study?

A. No, it was secured by a study of the actual stores expense incurred in the construction of compressor stations.

Q. What actual expense is that?

A. The actual expense incurred in the construction of the compressor stations at Brad, Joshua Number Two and the Sipe Springs station.

Q. Now those are all small stations, aren't they?

A. Yes, compared to this Petrolia station, they are small stations.

Q. How much does a compressor unit of the type used in those stations cost, approximately?

A. Well, those 160 horse power units are somewhere [fol. 1071] around Eight Thousand Dollars a unit.

Q. As compared with what?

A. Or \$9,000, I believe.

Q. As compared with \$77,000 and something, I believe, for these units at Petrolia?

A. Yes.

Q. What does that \$5,000 and something for stores expense actual- cover on these Petrolia compressing station units?

A. It covers accounting for materials and handling and checking materials.

Q. Now these compressing station units are very large machines, aren't they, Mr. Biddison?

A. Yes.

Q. You couldn't hardly lose one of them, could you?

A. It would be quite difficult, yes.

Q. Well then, what checking in and out of a warehouse is going to be necessary on one of these big units?

A. One of these machines when shipped is shipped dismantled and consists of several carloads of material. Of course the main frame, which weighs somewhere around thirty to thirty-five tons, is not crated, or boxed, and the fly-wheel may be shipped without being crated or boxed, but every other item of equipment on that engine is crated and boxed and has to be accounted for and checked in upon receipt and has to be found ready for use when they go to put it in place. That is an expense in stores accounting in the handling of this equipment.

Q. All right; now is that always the case on all sizes of [fol. 1072] compressor engines? Are they always shipped dismantled?

A. No, you can buy small units completely assembled. The units at Brad and Joshua and Sipe Springs are smaller units and they came in a more completely assembled form than the big Petrolia units did.

Q. Now does the installation costs on these Petrolia units represent costs found in the same method as for the installation of the small units at Brad, Sipe Springs and the other stations you mentioned?

A. You are talking about the installation charge on the equipment?

Q. Yes.

A. No sir, it does not.

Q. How did you work out this installation cost?

A. From a set up which I made, particularly for the Petrolia station, based on my own experience in erecting engines similar to those—and incidentally, I supervised the erection of the original installation at Petrolia.

Q. Is that one of these hypothetical set ups?

A. I don't like the name, but it falls in the class with others to which you have applied that name.

Q. Well, you will agree it is all hypothesis, don't you?

A. No, I do not agree to that at all.

Q. You think that would be a dangerous admission, do you?

A. No, I don't think it would be a dangerous admission; that is not my idea. I do not think it is a proper terminology.

Q. What would be the proper term to apply to it?

A. It is simply an estimate based on my experience. It [fol. 1073] is not an estimate based upon the data accumulated from the properties evaluated.

Q. Or on any other property?

A. Yes, it is.

Q. In specific detail?

A. In specific detail, yes, dating back—my first one was in 1904, or '05—1905.

Q. If there is any one thing you are supposed to be an expert on, Mr. Biddison, it is supposed to be compressor stations and compressor engines?

A. I have built a lot of them, yes.

Q. Didn't you and Mr. Griffith pay particular attention to that on your direct examination to show how thoroughly informed you are on that particular class of property?

A. I don't know that we paid any more attention to that than to other things.

Q. Well, this is really your strong point, isn't it?

A. I know a lot about it, among other things.

Q. Nevertheless in computing your costs for Petrolia you have made a purely hypothetical set up, representing a gang set up or something of the sort, where you have never really used a gang of that particular size on any installation in your experience?

A. I don't know that I have ever used a gang of this particular size, but this is a gang of the approximate size which would be used and the performance is that which could reasonably be expected of that sort of a gang on this work.

[fol. 1074] Q. I asked just before recess for your hypothetical set-up for these Petrolia installations.

Mr. Griffith: The same kind of set-up you stated was based on your experience, Mr. Biddison.

A. This station consists of two single and five twin engines. I might state that a single engine of this type consists of two power cylinders in line with a compressor cylinder

on the opposite side of the shaft and in line with the power cylinders. There is one main bearing for the shaft in the engine frame, and the other end of the shaft is supported by an out-board bearing. Now, the twin engine has four power cylinders, and the bed-plate for one side sets in the same location that the out-board bearing would set in the case of the single engine. The erection work for six of these twin engines would take about the same amount of time as the erection work for the five twins and two singles. I have estimated that it would require seventy-five days to erect these engines, and twenty-five days for testing and adjusting, breaking in and tuning the engines. Now, on this basis, I have set up the crews that would be required, and the time for which those individual men would be required. I estimate that the wages paid would be \$12,166.00. To that I have added for supervision 16.1 per cent; for tools and construction plant expense 16.3 per cent; for liability and com-[fol. 1075] pensation insurance 8.48 per cent; for a total of \$4973.46; the use of a tractor for sixty days at \$750; the expenses of the erector sent down from the factory for four months at \$150 a month, plus traveling expenses, or \$870.00 total; making a sub-total of \$18,759.46 to which I have added a contingent allowance of five per cent, bringing the sub-total to \$19,697.73. For painting the engines I estimate 150 gallons of primer, and 100 gallons of enamel paint, which with four per cent store's expense amounts to \$687.41; or a total of \$20,384.84; which is \$2.70 per horse-power on 7550 horsepower; and which amounts to 68 $\frac{3}{4}$ cents per hundred pounds.

Q. What crews did you use, and what were the rates of pay, Mr. Biddison?

A. One foreman at \$6.00 for 100 days; one erector at \$25.00 for 100 days—

Q. Is that at the rate of \$25.00 a day?

A. Yes, sir. Two machinists at \$5.00 for 75 days; two operators at \$5.00 for 60 days; two oilers at \$3.50 for 60 days; one rigger at \$6.00 for 60 days; one tractor operator at \$4.60 for 60 days; one pipe fitter on small pipe at \$5.00 for 60 days; one fitter's helper at \$3.50 for 60 days; one pipe foreman at \$5.00 for 60 days; ten rigger's laborers at \$3.50 for 60 days; three erector's laborers at \$3.50 for 60 days; eight piping laborers at \$3.50 for 45 days; 4 additional piping laborers at \$3.50 for 15 days; two painters at \$4.50 for 36 days; two painters at \$3.50 for 36 days.

[fol. 1076] Q. What is that cost for erector that you have there—what is the erector?

A. That is the factory representative who supervises the erection.

Q. You mean he is an engineer?

A. Yes; he is an engineer and erector sent down by the factory, paid for by the company.

Q. Would that be a necessary cost?

A. Absolutely.

Q. Wouldn't you have men working for your company that would be capable of putting these machines in without having a factory representative come to supervise the installation?

A. Well, there are men in the employ of the Lone Star Gas Company who I think could erect those engines, but when you buy those engines you have no guaranty applying upon their operation unless you have them erected by a factory representative.

Q. On the jobs where you worked in installing compressor station machinery were you the erector on those jobs?

A. Well, I supervised the whole job; but I always had on engines of this class an erector from the factory every time.

Q. Did you install these engines that are listed on page 3123?

A. I supervised the installation of part of them.

Q. What was the date of that installation?

[fol. 1077] A. I believe that was in 1914.

Q. About twenty years ago then?

A. Yes, I am not absolutely certain of that year; it might have been slightly later than that.

Mr. Griffith: You also made the estimates of the cost before the station was built, didn't you?

A. Yes, sir; made the estimates of cost, made the designs, and supervised the installation. The original installation consists of three singles and two twins.

Q. And they had to have a factory representative come down and make the installation?

A. To erect the engines themselves, yes, sir; that is customary practice in large machinery, whether it be gas or steam engines.

Q. When did you last supervise the installation of some compressor machinery?

A. 1930.

Q. Of this size?

A. Yes, sir.

Q. Where were those compressor units installed?

A. Two of them in Alabama and five in Mississippi—change that answer—seven of them in Alabama and two in Mississippi.

Q. Now, on the seven that you installed in Alabama, Mr. Biddison, what gang set-up did you use?

A. Well, the gang was similar to this one.

[fol. 1078] Q. Did you have exactly the same number of men?

A. Well, I don't know whether I had exactly the same number of men, or whether they worked exactly the same hours.

Q. What was the total labor cost on that job?

A. The labor on that job was all performed with respect to five of these units by a contractor who had a turn-key job. On two of the units, however, which were built directly by Company forces, the erection labor cost was in excess of three dollars per horse-power.

Q. Did you work for the contractor or the Company?

A. I worked for the company—supervised the contractor.

Q. Do you know what the contractor's costs were on the five machines installed under the turn-key contract?

A. I do not.

Q. What did the contractor charge the Company for that installation?

A. Well, I don't recall the costs now; but I do recall that the over-all costs of those stations were about \$145 per installed horse-power.

Q. You don't know what the contractor's part was, though?

A. Not now, no. His contract included the foundations, the main building, the auxiliary building, the engines, electric wiring, and all auxiliary equipment, including electric generator, and electric pumps, oil filtering apparatus, and so forth.

Q. Are these Worthington Snow horizontal double acting [fol. 1079] twin tandem, four cycle, gas engines being made now?

A. Yes, sir.

Q. Are they made by anybody else besides the Worthington Snow people?

A. They are made by the Henry R. Worthington Company; that company is the manufacturer of that engine.

Q. On page 3515 you show General Office Land in the amount of \$44,545.00. I believe you stated on direct examination that that figure was derived from the books of the Company?

A. Yes, sir.

Q. When was that land purchased?

A. I think about 1922 or '23, about that time.

Q. About '22 or '23, you say?

A. Yes; about that time.

Q. Now, since that purchase, a part of that land has been sold to the Dallas Gas Company, has it not?

A. Yes, sir.

Q. How much did the Dallas Gas Company pay to the Lone Star Gas Company for the land purchased?

A. \$1626.48.

Q. What was the purchase price of the whole parcel of land as per the books?

A. The purchase price was \$4,500.00; to that is added delinquent taxes, \$1171.47; making a total cost of \$46,171.47.

Mr. Griffith: I believe you said \$4500.00 where you mean \$45,000.00.

[fol. 1080] A. I meant \$45,000.00.

Q. So you then made a deduction of the amount sold to the Dallas Gas Company?

A. Yes, sir.

Mr. Griffith: That is just a small strip that was sold?

A. Yes; I think 13 feet, if I recall right.

Q. So that the \$44,545 shown in your exhibit includes about five or six hundred dollars worth of delinquent taxes?

A. Includes \$1171.47.

Q. Of delinquent taxes?

A. Yes.

Q. On pages 3516 and 3517, Other General Land, you show several parcels of land ranging from the highest \$18,052.00, to the lowest \$2500.00. When were these pieces of land purchased?

A. I can't tell you the date on the eighteen thousand one; the other parcels, however, were purchased in connection with the Company's General Shop which was built about 1926 or '27, I believe.

Q. And you have placed them in your appraisal at the actual cost?

A. Yes, sir.

[fol. 1081] Q. On page 3520, where you show the General Shop Warehouse, at a cost of thirty-nine thousand dollars plus, I believe you say that that cost was found by an estimate given you by Austin Brothers?

A. Yes, sir, who built the structure.

Q. Was that the actual cost incurred by them in building the warehouse?

A. No; that was a quotation made by them as to the cost of reproduction.

Q. Did you obtain any competitive bids from any other people?

A. No, sir. The figure given there of \$39,247.90 I explained on Direct Examination included some items not embraced in the Austin Brothers contract or in the Austin Brothers quotation which were parts of the building not covered by work which they had done.

Q. In the classification General Office Furniture and Fixtures, page 3722, the first item shown there—

Mr. Griffith: It is page 3522, Mr. Fitzhugh.

Mr. Fitzhugh: 3522, yes, sir.

Q. The first item upon that page is a Special Oak desk with inlaid top, figured at a cost by you of \$1260.00. Where did you get the price for that desk?

A. All these prices on this equipment were furnished to me by Mr. Richey. I don't know offhand just which desk that one is.

Q. That is a pretty high priced desk, isn't it?

A. Yes, sir; it is.

[fol. 1082] Q. The next eleven desks shown in the inventory are a Cathedral Oak and some walnut desks. Were those prices furnished by Mr. Richey also?

A. Yes, sir; those prices were obtained through him.

Q. The Cathedral Oak desk is priced out at the price of \$342.00, isn't it?

A. Yes, sir.

Q. The walnut desk just following at \$820.00?

A. For two.

Q. For two of them?

A. \$410.00 each.

Q. Yes, \$410.00 each. Following in the inventory is a small desk at \$585.00. How do you account for the smaller desk being more expensive?

A. Well, the price on desks does not run in proportion to size, Mr. Fitzhugh.

Q. Well, they are both walnut desks, aren't they?

A. Yes, sir. One is a rolltop desk and the other is something else.

Q. Would that make the difference in cost?

A. Well, it would account for some difference in cost at least.

Q. Well, as a matter of fact a rolltop desk is no longer considered the stylish thing, is it?

A. Well, I know some people that wouldn't have anything else.

Q. They are less expensive as a general rule than a flat-top desk?

A. No, sir. As a rule a rolltop desk is the more expensive desk.

[fol. 1083] Q. On page 3529 there are some Davenports listed, one red leather upholstery, one green leather upholstery, and another different size red leather upholstery. Now, those are all special upholstery jobs, aren't they?

A. Yes. I think a great deal of this equipment was made up on a special order under a contract for such equipment—that is, this high-priced equipment.

Q. Now, where the furniture has been specially made to order, how did you get the prices on it?

A. Well, a great deal of material that is not carried in stock will be made up on order.

Q. I know, but does this \$270.00 for these special upholstery jobs represent the price actually paid or a calculated or appraised price?

A. It represents an appraised price.

Q. To really inquire into the prices for furniture we would have to ask Mr. Richey about it, wouldn't we, Mr. Biddison?

A. Yes, sir.

Q. When you come over to the miscellaneous classification, page 3558, you show a Collins and Aikman Paddington carpet over one-quarter inch Ozite Lining. That carpet covers the entire tenth floor of the Dallas gas building, doesn't it?

A. It is so stated; yes, sir.

Q. Except one office?

A. Yes, sir.

Q. The price of that is \$3,531.00?

A. It is so shown; yes, sir.

[fol. 1084] Q. Is that a price also given you by Mr. Richey?

A. Yes, sir. This may have been the actual price paid for that carpet; I don't know.

Q. Now, on the next page, 3559, is shown a Super Worsted Chenille Carpet Special Color installed including one-fourth inch Ozite lining. Now, that is a carpet made for just one room, isn't it—can you look up and find the size of that carpet?

A. No. The work papers do not show the dimensions of that carpet.

Q. Can you tell from those papers the source of the price of \$1,100.00 placed on that carpet?

A. No; that would have to come through Mr. Richey.

Q. Would the same apply to the Oriental Throw Rugs on the same page?

A. Yes, sir, and any other carpet or any other piece of furniture listed on this list.

Q. Would that also include the Hand Made Draperies?

A. Yes, sir. It would include anything in this list, General Office Furniture and Fixtures.

Q. On page 3568, under General Shop Equipment, you show a Bruce-Macbeth vertical, four cylinder, four cycle gas engine, 110 horse-power. Does any one else make a gas engine of this type besides the Bruce-Macbeth people?

A. Yes, at least a dozen other manufacturers.

Q. Did you get prices on any other engine that serves the same purpose as this engine?

A. No.

[fol. 1085] Q. Is this a competitive price? I mean did you get bids on this engine?

A. I got quotations from the manufacturer of this engine.

Q. Well, you just got it from one manufacturer?

A. Yes, got it from the manufacturer.

Q. On page 3582 you list under General Tools \$32,935.84 for compressing tools. What do those tools consist of?

A. Well, they consist of wrenches, hammers, calipers, tongs.

Q. Does that include all the tools necessary to operate compressor engines?

A. Yes, sir.

Q. Isn't it a fact, Mr. Biddison, that when you buy those compressor engines the tools come with the engine?

A. Usually if you buy several engines you get one set of tools, which are practically used up by the time your compressor station job is done.

Q. You mean you use up all the tools that come with the engine in getting the engine installed?

A. Yes.

Q. But your price for engine does include tools?

A. Yes, sir; it includes a set of tools, and a lot of tools that are not a part of any set.

Q. Pipe line tools you show as \$58,558.42. What do those tools consist of?

A. Those consist of tools used by the pipe line men in the operation of pipe lines and repairs, maintenance work.

Q. Does that include welding wagons or acetylene gas equipment?

A. Yes.

[fol. 1086] Q. How many welding wagons have you got in this fifty-eight thousand amount—incidentally, you don't include the detail on any of these items in your appraisal?

A. No.

Q. Just have the lump sum figure?

A. Specifically, now, what class of welding equipment is it you want me to pick out?

Q. Acetylene equipment mounted, or wagons. I don't know what you call—acetylene wagons, I guess, or welding wagons, whatever term you give to those pieces of equipment. What do you call those?

A. Well, they are wagons for hauling generators. They might often be styled as generator wagons.

Q. Yes, sir.

A. Thirteen generator wagons.

Q. At what cost?

A. Ninety dollars each.

Q. Does that include the generator mounted?

A. No, sir; it does not. There are five generators at \$260.00, and one generator at \$308.70, and one generator at \$260.00. I believe that is the total of generator wagons.

[fol. 1087] Q. Well, just in a general way, what are the biggest items in this \$58,000.00 amount?

Mr. Griffith: The detailed working papers that you have in front of you, Mr. Biddison, cover a great many items of this class of equipment?

A. Yes, sir, they do; but there is a very considerable amount of welding equipment, aside from the wagons and generators, which I have already mentioned, consisting of regulators, welding torches, tips for torches, poles——

Q. There is no separation in the detail sheets that you have there before you now, as between equipment used on new construction and equipment used for maintenance and repairs, is there?

A. Why no; equipment may be used indiscriminately for one or the other.

Q. Or for both?

A. Yes, certainly. Just because you are going to do an operating job you wouldn't go buy a special wrench.

Mr. Griffith: In other words, Mr. Biddison, is there a distinction between an operating wrench and a construction wrench?

A. No.

Q. There is a difference in the way in which you handle the cost of one of those wrenches, though, whether it is [fol. 1088] maintenance or construction?

A. No, the expense of the use of those tools is based on the use thereof.

Q. The wearing out of a tool used in new construction is properly charged as an item of capital expense——

A. Yes, sir.

Q. —and the wearing out of a tool used in maintaining a pipe line, or repairing a pipe line is properly charged to maintenance and operation expense of that line?

A. Certainly.

Q. On page 3589, where you have listed a Packard car, a Packard Touring Car, and a Packard Sedan, at varying prices, are those the prices new?

A. Those are the prices new, upon purchase of the cars.

Q. And it is the purchase new, whether the car was built in 1921 or 1930, is it not?

A. Yes, it is.

Q. The same for the Chrysler cars listed?

A. Yes, sir, the same for all cars listed.

Q. What is this LaSalle Standard Coupe, listed on page 3590, used for?

A. I don't know specifically; I don't know who that car is assigned to.

Q. You have listed seven Buick cars, fourteen Oldsmobiles, a Dodge, an Oakland, three Studebakers. Can't all [fol. 1089] those cars be bought at present-day prices cheaper than those you have included in your appraisal?

A. Well, now, I don't think you could go out and duplicate some of those cars to-day at any price.

Q. Could you have as of the date of your appraisal?

A. I think not; when it comes to actual duplication on January 1, 1933, of a 1930 model car, you can't actually go out and duplicate it.

Q. You mean you couldn't get the same model?

A. That's the point exactly.

Q. But you could get a better model, couldn't you?

A. Well, you could get a different model; it might and might not be better.

Q. A better model at a less price?

A. In some cases you could buy a better model at less price, and in some cases at a less price you would get a model that was not so good.

Q. Well, it is a matter of common knowledge, isn't it, Mr. Biddison, that an ordinary car depreciates over 30 per cent after the first year, for no other reason than the fact that there is a new model that comes out? If you just bought a car and let it stay in your garage for a year, it would have lost about 30 per cent of its value, would it not?

A. Not necessarily; it might have lost some value on a trade-in.

Q. You are distinguishing, now, its value in use from its [fol. 1090] value in dollars and cents?

A. Yes, sir——

Q. Yes.

A. —its value in trading.

Q. On page 2602, where you show Buckeye Ditchers——

Mr. Griffith: Do you mean 3602?

Mr. Fitzhugh: Yes, 3602. Thank you.

Q. Where you show Buckeye Ditchers, six of them at \$5991.02 each,—I will ask you, Mr. Biddison, if those ditchers are not used entirely for new construction?

A. They may be used for new construction or for replacement work both; they may be used for any purpose for which a ditch is dug of a size which this machine is adapted to dig.

Q. Well, it would be a very rare occurrence where you are simply doing ordinary maintenance work or ordinary repair work on lines, to use ditchers, isn't that right?

A. Well, ordinary maintenance work you don't use a ditcher, but then on replacement work, which is an operating expense—that is, a charge against your reserve account, we quite often use our ditching machines.

Q. What length of trench would have to be dug before it would make it profitable to use one of those Buckeye Ditchers?

[fol. 1091] A. It depends upon how far that piece of trench was away from the ditching machine.

Q. Well, under average conditions.

A. Well, if this ditching machine were somewhere as far as a hundred miles away from the job to be done, I would say you would have to have in the neighborhood of five miles of pretty good sized ditch to justify moving that machine in.

Q. Can you cite an instance; Mr. Biddison, where any of these Buckeye machines have been used in the last few years on any replacement job or repair job?

A. I believe one of them was used last summer down on the J System, if I recall properly.

Q. How much construction work was done there?

A. I don't recall.

Q. How far did the machine have to be taken?

A. I don't know.

Q. These machines are the machines that were used to dig trenches for about half of the present system, isn't that correct?

A. No, I don't think for half of the present system. They have been used on construction for all portions of the present system, that is correct.

Q. In arriving at your ditching costs—your excavation cost for machine excavation, did you allow for the use of these ditching machines?

[fol. 1092] A. No, sir, I did not. I allowed for the use of a ditching machine, or ditching machines to do that work. Now, that work is not tied down to these six particular machines, or any other particular six machines. As a matter of fact, that amount of ditching work could not be done with these six machines.

Q. As a part of your excavation costs what did you allow for ditching machines, in machine excavation?

[fol. 1093] A. Well, out of my total cost per cubic yard, for which I have previously cited figures, the cost of ownership of machines I estimate to vary from \$.048 per cubic yard on trenches averaging 40 yards per 100 lineal feet, to \$1.185 per cubic yard on trenches averaging 10 yards per 100 lineal feet.

Q. How do you find your \$.048, the figure for the first class of trenches?

A. Well, in the first place, taking the data accumulated by Mr. Steinberger and analyzing it, I have found that, on ditches averaging 40 cubic yards per 100 lineal feet, such machines can be expected to make about 1090 lineal feet per day, but that, on trenches averaging only about 10 yards per 100 lineal feet, such machines can be expected to make about 1700 lineal feet per day. I have computed that the interest charges on such a machine will vary from about \$.1707 per 100 lineal feet, when making an average speed of 1000 feet per day, to \$.0569 per 1000 feet when making 3000 lineal feet per day; and that at an average life of 125 miles per machine the repairs will amount to \$.7738 per 100 lineal feet, and the amortization charge is \$.967, or a total of \$1.7435 for amortization and repairs, which, added to the interest charges, produces interest charges varying from [fol. 1094] \$1.9412 per day, at a 1000 foot per day speed, to \$1.8004 per 100 lineal feet at a speed of 3000 feet per day.

Q. Why did you include in this an allowance for amortization?

A. Well, because if a machine is going to be used on a ditch the cost of that machine has got to be amortized from the total amount of ditching it is going to ditch.

Q. Well, does that take the place of depreciation allowance?

A. Yes.

Q. How did you find your allowance for amortization, of \$.967?

A. Well, it is obtained—

Q. What is that, dollars per cubic yard?

A. Per 100 lineal feet.

Q. It is per 100 feet, yes.

A. It is obtained by dividing the estimated cost of the machine by the total number of feet expected to be ditched by the machine, with 125 miles being about the economic limit for operation of the machine.

Q. Well, what are the figures that you divided to get this answer?

[fol. 1095] A. I do not have that full development here before me. I have a summary but not the full development here before me. It is the cost of the machine divided by the number of feet in 125 miles.

Q. Now, per hundred lineal feet you have interest \$.1707. That is on the basis of 1090 feet per day performance, isn't it?

A. No, that is on the basis of a thousand feet per day.

Q. A thousand feet per day?

A. Yes.

Q. And how did you find that?

A. By computing interest charges on the cost of the machine and finding that interest cost per day and dividing that interest cost per day by ten, which represents ten hundreds of feet, or one thousand feet.

Q. Do you have the detail on it?

A. No, not here. I only have the summary sheets here before me.

Q. Do you know what the allowance was that you made for idle time?

A. Yes.

Q. That is, you figured the machine would be idle part of the time and you have made an allowance for that?

A. Yes. In this study it was found that out of 493 total days on the job, these machines were active 451 days, and that would give you 42 inactive days out of a total of 493 days.

Q. Was this amount for interest figured on the full value of the machine?

A. Yes.

[fol. 1096] Q. Throughout the life of the machine?

A. Yes.

Q. Notwithstanding the fact that at the same time you are amortizing the value of the machine?

A. That is correct. Using a straight line amortization on the machine and a straight line interest rate.

Q. Well now, if you are going to have an allowance for amortization, Mr. Biddison, shouldn't your interest be computed as the machines wear out on the depreciated value rather than on the full value?

A. No, sir, it should not.

Q. What is your reason for saying that?

A. Well, it just isn't sound business.

Q. What made you pick 125 miles performance as being the optimum per machine?

Mr. Griffith: Do you understand what counsel means?

A. I understand what he is getting at. Because at about that figure the cost of repairs and amortization are lower than at any other point. They are substantially identical at 125 and 150 miles, the total cost for repairs and amortization. At mileages above that, the cost of repairs increases so rapidly that the total cost for repairs and amortization (and therefore the total cost for ditching) increases, and at mileages below that, the cost for amortization increases so rapidly that the total costs of amortization and repairs (and therefore the total cost for ditching) increases rather rapidly; so at around 125 to 150 miles it seems to be the [fol. 1097] economic point for retirement of that class of equipment, and it does not make any material difference whether the figure is 125 or 150 miles, according to the records on these six machines studied.

Q. Isn't it a fact, Mr. Biddison, that from the records on these very identical machines that you can very easily see these machines have done considerably more than 150 miles each?

A. No.

Q. Do you have the records on these machines available?

A. I have plotted the records on them.

Q. How many miles has this machine listed as No. 635 gone?

A. I do not have the record of that individual machine, but we have repair records per mile up to an average on these machines of 125 miles, or close to it.

Q. Some of these machines are new and some of them are old, are they not?

A. I don't know the purchase dates on any of these machines.

Q. If the average works out around 125 to 150 miles figure, that shows that some of them have been used for considerable more mileage than that, wouldn't it?

A. No, it would not show that at all.

Q. Well, if the average works out at around 125 miles, and some of them are new, that would mean that the older machines ran considerably more than 125 miles, wouldn't it?

A. That would be true, yes, if some of them were new, but I do not know the purchase dates on them.

Q. What cost have you used for gasoline?

A. I have used the actual amount of money paid for [fol. 1098] gasoline in the operation of the machines.

Q. Well, during what years was that consumption?

A. Well, mostly 1927, eight and nine.

Q. And the same would apply to oil?

A. Yes.

Q. That is, lubricating oil?

A. Yes.

Q. Now, isn't the allowance of interest by you on these ditching machines, Mr. Biddison, about the same thing as if some regulatory body should allow a rate of return on the rate base? That is, if you return to the owners interest for the use of capital tied up in machines, you are sort of putting yourself in the place of giving that item of capital a rate of return as it might appear in the rate base, are you not?

A. Let me see if I can understand that question.

(Reporter reads question.)

A. That may mean something to you but it does not to me. I don't understand what you want.

Q. After we get through finding what the values of the company's properties are in an ordinary rate investigation, then we apply a rate of return to that to find out what the company should make?

A. That is correct.

Q. All right; now that rate of return in ordinary layman's language might be considered interest, might it not, on the capital investment?

[fol. 1099] A. Yes; it is comparable to that, at any rate.

Q. All right now, if in the obtaining of the base value or the amount of the investment itself you have computed that value by including and making an inclusion of an amount for interest on the investment, you have already done what you expected to do later on in applying the rate of return back to the investment account?

A. Why no, I have not done any such a thing.

Q. What was the rate of interest you figured?

A. Eight per cent.

Q. And that eight per cent interest as calculated by you has been included as part of the value of the property of the company?

A. Eight per cent interest on the machines that would be required to be used in the reproduction of this property, and for the length of time that they would so be used, has been included as part of the reproduction cost, yes.

Q. And at the same time that eight per cent interest is figured on the undepreciated value of the machines?

A. Certainly.

Q. Throughout the life of the machines, I mean?

A. No sir, not throughout the life of the machines. In effect it is set up in this valuation for the length of time these machines would be used on this work.

Q. And in no case do you use a depreciated machine cost upon which to compute your eight per cent interest?

A. Certainly not.

Q. Now, the same method used by you on computing the [fol. 1100] costs of using these Budkeye ditchers was used by you in the matter of the backfillers, mounted air compressors, Cleveland baby digger and similar items. Is that right?

A. Well it amounts substantially to that.

Q. The next item of property is the general telephone system. Did you say Mr. Biddison that you made the valuation of this property yourself, or took somebody else's figures?

A. No, this is my evaluation.

Q. Where did you get the cost which you applied for the wire, poles, cross arms, insulators and materials of that sort?

A. The prices of materials were developed for me by Mr. Richey; I have them in the price books here.

Q. Have you had any experience in installing telephone systems?

A. Yes, I have. I built several hundred miles of telephone lines.

Q. Did you build any of the Lone Star Gas Company's telephone system?

A. No, I did not. I have built systems like it, though.

Q. Do you know what the cost of building any of the Lone Star Gas Company's telephone lines was?

A. By individual branches, you mean?

Q. Yes, or in the whole system—any part of it.

A. Well, I can not tell you offhand; I have an analysis of some of the construction costs on telephone system, which established a ratio of labor to material costs on the telephone system.

Q. Was that study by Mr. Steinberger?

A. The data was accumulated by him, yes.

Q. So the basic data on that will be best obtained from [fol. 1101] Mr. Steinberger, will it not?

A. Yes, and he can tie it back for you to the specific lines from which the costs were taken.

Q. Now, in using Mr. Steinberger's data as a basis, you have departed from using your own experience, have you not, and are using his?

A. Well, I have simply accepted an analysis of actual construction costs, made on the company's property, as being an easier and more rapid manner than using my own experience. I can set it up in detail from my own experience if you want me to.

Q. I mean, you have not changed Mr. Steinberger's figures any, have you?

A. No, not on that.

Q. On page 3607, where the installation cost of the tap to Hollis gasoline plant, Harmon County, Oklahoma, Line A, in the amount of \$40.25 is shown; how was that installation cost determined?

A. The total material cost is \$64.52. The installation cost, including stores expense, consists of four per cent on the material or \$2.58, and 58.39 per cent of the material, or \$37.67, of actual installation charges, making a total of \$40.25 for the installation costs, including stores expense on the materials.

Q. Does the 58.39 per cent include any omissions and contingencies?

A. I do not remember definitely whether it does or not, but I think it should, properly.

Q. In spite of the fact that you studied actual cost records?

A. Yes. It does include ten per cent allowance for contingencies and omissions.

[fol. 1102] Q. Is that ten per cent of material?

A. No, sir; it is an allowance of ten per cent of the installation cost.

Q. Well now, is your testimony, Mr. Biddison, for instance on the installation of the poles, that about 58 per cent of the pole cost would be used up in putting the poles in?

A. No, sir; it is my testimony that on the installation of telephone systems, about that per cent of the total material cost would be incurred for putting it in.

Q. You don't mean by that, that it could be separately applied to the separate items?

A. Why, certainly not.

Q. By applying ten per cent for omissions and contingencies to the installation cost alone, how would that work out if it were applied to the material as well?

A. Well, it would be close to five per cent of the total.

Q. The per cent that you have been applying on other classes of property, for omissions and contingencies, has mostly been two and one-half per cent, hasn't it?

A. Mostly, yes.

Q. Why is it you think there would be so much more omissions and contingencies on a telephone system?

A. Because there is a larger amount of waste in a telephone line construction, and your costs can vary so widely in the variation of the class of territory over which the construction progresses.

[fol. 1103] Q. What is it that you waste so much, Mr. Biddison, in a telephone system?

A. We lose poles, and wires, and insulators, and cross arms and brackets..

Q. You mean as you are building the line, you do that during construction?

A. Yes, and some times you lose wire even after you get a line built. It is not at all uncommon for anybody to go out and steal a mile or two of wire off a telephone line.

[fol. 1104] Q. On the final section in Volume 6, as to engineering records, who prepared that data?

A. Mr. Ed C. Connor.

Q. So you bear no responsibility for any part of this section?

A. No; not as to development of the detail.

Q. When was the first inventory of these properties prepared?

A. I don't know.

Q. Well, the Sanderson and Porter inventory was made some two years back, wasn't it?

A. I think the Sanderson and Porter inventory was prepared about 1928.

Q. Did you have anything to do with that?

A. No, sir.

Q. Did you have anything to do with the first appraisal and inventory prepared by Mr. Steinberger and Mr. Connor?

[fol. 1105] A: No, sir.

Q. Did you make any check of the inventory of property appearing in that appraisal?

A. At that time?

Q. Yes.

A. No; not at that time. I did make a check after the appraisal was completed of certain items of property.

Q. You mean that you went out and looked over the property?

A. Went out and looked over the property and made checks from map records.

Q. Did you find that the fundamental data in the company's office, that is the maps and engineering records were sufficient to identify properly and to tell what property existed without making a field check?

A. No.

Q. You found a field check was necessary, did you?

A. Yes, sir.

Q. Now, you testified, did you not, Mr. Biddison, that you checked over the evaluation of the undeveloped leaseholds, as shown by the exhibit introduced by Mr. Steinberger?

A. Well, I have inspected it, and I think it is properly determined.

Q. And I believe that you stated that the number of leaseholds covering undeveloped acreage shown in that exhibit were not unusual, but that they were a normal amount for a [fol. 1106] company of this size to have?

A. No; I think I went a little further than that. I said it was a small amount for a company of this size to have.

Q. How much gas is there under those undeveloped leaseholds?

A. Nobody knows.

Q. Is there any way of telling what reserves, if any, those represent?

A. Yes.

Q. You mean that you now know how much gas is under those undeveloped leaseholds?

A. No; I don't mean that at all.

Q. Well, how can you tell then whether that is a normal or sub-normal amount for a company of this size to have?

A. I have been connected with gas companies for years, and I know that the amount that this Company has is a small amount both in acreage and in amount of money.

Q. What other gas companies do you have in mind in making that statement?

A. Well, I have been connected with the Kansas Natural Gas Company, and with the Logan Natural Gas and Fuel Company—

Q. Take them one at a time. The first company you named was the Kansas Natural?

A. Yes, sir.

Q. How much undeveloped leaseholds in acreage does the Kansas Natural Gas Company have?

A. The Kansas Natural Gas Company is a part of the [fol. 1107] Empire System now. The Kansas Natural Gas Company is no longer in existence.

Q. Well, pick out some company that you can give us the complete figures on?

A. I can't give you complete figures on any of them.

Q. Well, how can you say that this was a usual or less than usual amount as to acreage of leaseholds undeveloped and money tied up?

A. Simply by a ratio proposition. It is a small amount of money compared with the total amount of money.

Q. What is the normal?

A. Well, here is this Company with seventy millions of dollars valuation with less than one million dollars in undeveloped acreage. If they had three or four times that, I would say it would not be more than a normal amount.

Q. Do you know anything about the Cities Service System?

A. I don't know their ratio at this time. I know they have had a very much higher ratio than that in the past.

Q. Now, suppose, Mr. Biddison, that the reserves already developed and in existence at this time are known to be

sufficient to satisfy the Company's needs without the purchase of any additional gas reserves, or the development of any new reserves, for a period of from twenty to forty years, would there be any necessity for having undeveloped leaseholds in any amount?

A. Yes, sir; there would be.

[fol. 1108] Q. Well, if there exists such a necessity the use of those leaseholds would not come into being for a period of at least twenty years, would it?

A. It might, or might not—very likely would.

Q. Isn't their use so remote, and at a time so distant from the present, as to make them negli-ble, so far as their consideration from any standpoint is concerned now?

A. I don't think so. I think a great many of these leases will be drilled in the comparatively near future.

Q. That is just along the policy of the Company—along its general line of policy in getting what gas it can as soon as it can get it?

A. Yes; being ready for the time it has to have it.

Q. If it got the opportunity to buy some more gas at a cheap price it would go ahead and make the purchase?

A. Yes, sir; if they can buy gas at less than they can produce it for, I don't doubt but that they would do it.

Q. It is the policy of the Company to store up as much gas as it can?

A. That has not been the policy of the Company, as evidenced by the amount of gas they now control and the amount of acreage they have under lease. On the contrary, the Company's policy has been from its inception to buy gas.

Q. Have you bought any leases in the Panhandle Field of Texas?

A. No.

Q. In recent years?

[fol. 1109] A. No; I have not.

Q. Have you bought any oil or gas leases in the East Texas Field?

A. Yes.

Q. Was that purchase made on your own account or for some company?

A. It was made primarily for a partnership.

Q. Were those gas bearing lands?

A. No, sir; oil lands.

Q. And the Company does not operate in the East Texas Field, does it?

A. No, sir.

Q. Have you made any purchases in any of the West Texas gas fields for anybody?

A. No, sir; I have not.

Q. Have you made any purchases in the Oklahoma fields from which the Lone Star Gas Company takes gas?

A. No; I have not. Yes, I have, too. That was a long time ago, however; that was along about 1917.

Q. Well, those purchases would not hardly make you an authority on the field price or the acreage price being paid in those fields, would it?

A. I don't think so, no.

Q. Now, Mr. Biddison, you have in recent years almost made a business of testifying in rate cases, haven't you?

A. No, sir.

[fols. 1110-1112] Q. You have testified in a great number?

A. No, sir; not a very great number. In recent years I have spent the bulk of my time in valuations and reports.

Q. For rate—

A. For rate-making purposes, that is true.

Q. And whenever a rate case appeared involving any of the companies you have been working for, you did appear in those cases as a witness, did you not?

A. Yes, sir.

Q. I believe that you work for or are employed directly by the Lone Star Gas Corporation?

A. I am retained by them.

Q. Are you being loaned by the Corporation for purposes of this case to the Lone Star Gas Company?

A. What the Corporation or the Lone Star Gas Company does in respect to that, I don't know. My retainer is under such conditions that my services are contracted for to be available to the Lone Star Gas Corporation and any of its subsidiary or affiliated companies; therefore, when one of them asks for my services, I give them.

* * * * *

[fol. 1113] Q. Now, just to look at your appraisal as a whole, Mr. Biddison, you have figured that there would be a wholesale reproduction of the Company's properties, and that none of the properties would be rebuilt piece-meal; is that correct?

A. That is correct. I figured a wholesale construction [fol. 1114] program to reproduce the properties.

Q. You have figured that none of the Company's present personnel would take part in that reproduction?

A. Well, I have not given any consideration to the question of whether the Company's precise personnel would be on the job or not. It would be a personnel of comparable ability; whether the identical persons or not does not make any difference.

Q. In the case of drilling equipment or new construction, ditching machinery used in new construction, and other of the Company's property used in new construction, now owned and which might be used in new construction, in no case in your appraisal have you given any consideration to the fact that that property could be used in the reconstruction, have you?

A. No, sir. It does not make any difference whether a piece of equipment that is setting out here is used, or some other is used. The reproduction cost bears the expense of such equipment as is consumed and used up in construction.

Q. In the pricing of pipe valves, meters, and various other items of property that appear hundreds and thousands of times throughout the appraisal, you have relied primarily on the price-lists made out by Mr. Richey, have you not?

A. Yes, sir.

[fol. 1115] Q. In working out the installation costs, or the costs additional to the price of the component parts of the property, in order to get the price of these units of property installed, you have relied in part upon data compiled by Mr. Steinberger and correlated into cost studies as compiled by him, and in part upon the cost figures that you have found by the use of hypothetical gangs; is that true?

A. That is true; but I would like to add in connection with these cost studies by Mr. Steinberger that I have gone through the analysis of the basic data myself.

Q. In none of the cases where you have gone through Mr. Steinberger's studies have you changed any of his basic data, have you?

A. Not the basic data; but I have drawn the conclusions and checked the particular conclusions in such instances as I did not draw the conclusions originally myself.

[fol. 1116] Q. That is, where he has made performance studies you have accepted the number of hours of labor found by him?

A. The number of hours of labor taken from the records by him; yes, sir.

Q. And you have accepted the performance of work done by those hours of labor as found by him?

A. As taken from the records; yes, sir.

Q. In the case of General Office Lands and Other Lands you have relied solely upon the cost as per the books, have you not?

A. Yes, sir.

Q. In the case of drill tools and automotive equipment you accepted the cost as per the books?

A. Not as to drill tools, but as to automotive equipment I accepted the cost.

Q. Yes. Well, as to your automotive and construction equipment you took that as per the books?

A. As to the automotive equipment as per the books. As to other equipment, that was priced out from quotations.

Q. Well, how about ditching machines?

A. That is as per quotations.

Q. And in the case of General Office Furniture and Fixtures and Other General Furniture and Fixtures, you took the prices as given you by Mr. Richey?

A. Yes, sir.

Q. All the overheads, I believe you say, have been determined by Mr. Ed C. Connor?

A. That is correct.

[fols. 1117-1118] Mr. Griffith: That is, all the general overheads?

A. Yes, sir—general overheads.

Q. As a matter of fact, Mr. Biddison, don't you appear in the part that you have played in this appraisal as simply a compiler—haven't you computed from basic data given you by other people and finally had it printed in book form?

A. I think that is a matter of opinion. That is not my opinion.

Q. You don't think that is a true statement?

A. No, sir; I don't. I think I have explained rather fully what my position was in this respect.

[fols. 1119-1120] Q. Mr. Biddison, where you have testified that you used cost studies based upon the construction experience of the Lone Star Gas Company as affording a guide to the installation of construction costs as

set out in Exhibit 28, I will ask you if in all cases that experience of the company was adjusted to conform to labor prices which were current and prevailing as of January 1, 1933?

A. It was.

[fol. 1121] Q. Well, you do know of your own knowledge, don't you, Mr. Biddison, that the general overheads charged—the general overheads incurred by the company or the costs of the properties—I'll put it that way—prior to 1927 were not capitalized on the books of the company?

A. That is my understanding.

Q. Mr. Huley's testimony was that for that reason the books did not show the true historical cost of the property?

A. That is my understanding.

Q. Now, Mr. Biddison, I will ask you if the books had been kept so as to show the true historical cost, that an adjustment on the books to show when property was being retired and adjustments to show when new property was put in or replacements made, if it would not then be possible to take the historical cost as per the books with an adjustment for present day prices and by that means to obtain a true value?

A. I believe it would; yes.

Q. If that were possible, wouldn't that be greatly preferable to finding value by wholesale reproduction, which is purely hypothetical?

A. Well, I don't know. I know it would be a valuable [fols. 1122-1124] aid. I think it would be a good method.

PAUL RICHEY, a witness for defendant, having been duly sworn, testified as follows:

Direct examination.

Questions by Mr. Griffith:

Q. What is your name?

A. Paul Richey.

Q. Where do you live, Mr. Richey?

A. Dallas, Texas.

Q. By whom are you employed?

A. Lone Star Gas Company.

Q. In what capacity?

A. I have charge of the pricing section of the Purchasing Department.

* * * * *

[fol. 1125] Q. And are you the Mr. Paul Richey who prepared and furnished price-books and prices and quotations on materials which enter into Defendant's Exhibit 28 in this case?

A. I am.

Q. Will you please relate in a general way, Mr. Richey, just what you did in the assembling of prices covering materials entering into the Lone Star Gas Company's public service property?

A. Quotations were solicited and secured direct from manufacturers or their dealers, and various supply companies and other concerns, and in preparing the prices factory shipment basis was considered, and all special and preferential discounts, including the cash discounts, were taken into consideration.

Q. By the term "taken into consideration" do you mean that the discounts were taken in order to get the net price which was applied in Defendant's Exhibit 28?

A. That is correct.

Q. Now, you of course, were not responsible for the direct application of the prices which you secured, to Defendant's Exhibit 28?

[fol. 1126] A. I was not.

Q. But you did assemble and prepare, and furnish to Mr. Biddison and Mr. Steinberger all data relative to costs of materials which are evaluated in Defendant's Exhibit 28?

A. That is right.

Q. In connection with that work, did you prepare any price-books?

A. I did.

Q. What were the price-books which you prepared?

A. I prepared what might be termed an original price-book, covering items disclosed by the inventory and, in

addition, as corrections were made by those responsible for the inventory, a supplementary book was prepared.

Q. And in all cases did you furnish your determined net prices to Mr. Biddison and Mr. Steinberger, for utilization in connection with the preparation of Defendant's Exhibit 28?

A. I did.

Q. Now, in addition to being familiar with the general run of the equipment and material which enter into the Lone Star Company's public service property, are you familiar with past and current prices for casing?

A. I am.

Q. And line pipe?

A. I am.

[fols. 1127-1133] Q. And have you prepared, for presentation as an exhibit in this case, a compilation reflecting pipe prices in large lots?

A. I have.

Q. Is this the compilation to which you refer, Mr. Richey, it being styled on the title cover "Lone Star Gas Company—Pipe Prices—Large Lots"?

A. That is correct.

Mr. Griffith: We offer the exhibit so identified by the witness, in evidence.

(Thereupon the document above referred to was marked as Defendant's Exhibit 33.)

[fol. 1134] Q. Now, I will ask you this one question relative to Exhibit 33, Mr. Richey, whether in each case of a quotation covering pipe prices for any particular size of pipe for any one of the dates set forth in the exhibit, you have used the lowest quoted price by any manufacturer?

A. That is correct.

Q. Mr. Richey, have you also prepared a compilation showing a comparison of pipe prices as between January 1st, 1933, and June 11th, 1934?

[fol. 1135] A. I have.

Q. Is this the compilation you refer to, it being styled on the title cover, "Lone Star Gas Company—Comparison of Pipe Prices—January, 1933, to June 11, 1934, inclusive"?

A. It is.

Mr. Griffith; We offer the exhibit so identified by the witness, in evidence.

Examination by Mr. Fitzhugh:

Q. Mr. Richey, are the prices you show here as of January 1st, 1933, the prices that Mr. Biddison used in pricing out his appraisal as of that date?

A. That is right.

[fol. 1136] Q. That is in your net cost column, as shown on page 1 and subsequent pages?

A. That's right. Net cost.

(Thereupon the document above referred to was marked as Defendant's Exhibit No. 34.)

By Mr. Griffith:

Q. Now, Mr. Richey, did you prepare Exhibit 34 with the primary purpose in mind of showing the trend in pipe prices from January 1, 1933, to June 11, 1934?

A. I did.

Q. You have just testified that the prices appearing in Defendant's Exhibit 34, as of January 1, 1933, were the prices which were adopted and used by Mr. Biddison in Defendant's Exhibit No. 28?

A. That is correct.

Q. And you have also testified that the prices shown in Defendant's Exhibit 34 as prevailing on June 11, 1934, prevail as of to-day?

A. I did.

Q. Now, refer please to page 1 of Exhibit 34. What is shown in relation to the trend of butt-weld standard black pipe, single random lengths, as between January 1, 1933, and large-lot purchases in the column headed June 11, 1934?

A. It is shown that the price trend is upward from January 1, 1933, from almost four per cent to nearly eight per cent.

Q. As to the lap-weld line pipe, black pipe in single random lengths, what is shown in relation to the smaller sizes—that is the sizes from $2\frac{3}{8}$ inch to four inch?

[fol. 1137] A. From $2\frac{3}{8}$ inch O. D. to four inch O. D. it is shown that the prices have declined approximately ten per cent.

Q. There is in the Lone Star Gas Company system a relatively small amount of pipe of this character?

A. That is correct.

Q. Now, commencing with the four and one-half inch size, do we find that the prices as of June 11, 1934, is 107 per cent of the price quoted as of January 1, 1933 and used by Mr. Biddison in his appraisal?

A. That is correct.

The Court: That does not mean 107 per cent higher, but simply seven per cent higher?

A. That is right—7.18 per cent.

The Court: An increase of 7.18 per cent?

A. That is correct.

Q. And similarly for the other sizes of pipe appearing on that page, without exception, running through the 10 $\frac{3}{4}$ inch pipe, do we find that the price trend is definitely upward?

A. We do.

Q. On page 2, where you have set forth lapweld line pipe, black, single random lengths, in sizes from 10 $\frac{3}{4}$ inch of the various weights, to 24 inch, has the price trend been upward without exception?

A. It has.

Q. In approximately what percentage would you estimate it?

A. Five per cent, approximately.

Q. Approximately five per cent?

[fol. 1138] A. Yes.

Q. On the double random lengths of pipe appearing on page 2 of Exhibit 34, do you similarly show a price trend upward?

A. That is correct.

Q. In approximately what amount?

A. Six per cent.

Q. And on the seamless line pipe, black, single random lengths, appearing at the bottom of the page, it does not appear you have set forth a percentage?

A. No, sir, I did not carry that out into a percentage, although the prices are slightly upward.

Q. The prices are slightly upward as compared with the prices as of January 1, 1933?

A. That is correct.

Q. Now on page 3 we get into the threaded and coupled pipe. Is that correct?

A. That is right.

Q. The lapweld line pipe, black, in single random lengths.

A. Yes.

Q. In connection with this pipe do we find that the price trend generally has been downward since January 1, 1933?

A. That is correct.

Q. But in respect of this pipe, Mr. Richey, I will ask you if there is relatively a small amount of this pipe in the Lone Star Gas Company system?

A. That is right.

Q. In other words, by far the preponderant proportion [fol. 1139] of the pipe in the Lone Star Gas Company system is line pipe, plain end?

A. That's right. I have observed the inventory; I could not make any statement as to percentage, but it is very evident that the threaded and coupled material is negligible.

Q. Can you give any explanation for the decline in threaded and coupled pipe prices as between January 1, 1933, and June 11, 1934, when the price trend on the other pipe has been upward?

A. The threaded and coupled line pipe is somewhat similar to casing and tubing or what might be termed oil country goods. In other words, that is a class of goods that is carried in stock by supply companies and dealers around over the country, and for that reason carries a larger profit than the plain end material. In addition to that, the plain end pipe was generally sold in very large quantities, whereas threaded and coupled material was not. I would say that it was evident that the threaded and coupled pipe carried a profit that was probably somewhat excessive, whereas the plain end material carried a very small margin.

Q. Refer please to page 4 of Exhibit 34. On that page you have set forth the prices as of several dates covering butt weld standard galvanized in single random lengths of pipe; butt weld line pipe galvanized in single random lengths; lap weld line pipe galvanized in single random lengths; butt weld extra-strong black pipe in single random lengths; lap weld extra-strong copperoid pipe in single random lengths; and butt weld extra-strong copperoid pipe in single random lengths?

A. Yes.

[fol. 1140] Q. In connection with some of this pipe it would appear from this page that there has been a slight decline in price from January 1, 1933, to June 11, 1934?

A. A slight decline in some of the material shown on page four, and an increase in some of the other sizes.

Q. But so far as the quantities of material involved in the Lone Star Gas Company pipe line system are concerned, I will ask you if the pipe appearing on this page is relatively small, or constitutes a relatively small per cent?

A. A very small per cent. It might be observed that we do not carry any per cent figures on the butt welded standard galvanized in the small sizes, as there is very little if any of that material appearing in the Lone Star Gas Company inventory. We did set some prices up on it, however.

Q. You wanted to show the trend of prices on all kinds of pipe?

A. That's right.

Q. If you refer to page 5 of Exhibit 34, what do we observe in relation to the electric welded pipe?

A. On the Republic electric weld pipe we have an increase of 6.89 per cent on the 4½ inch O. D. size; and 6.77 per cent on the 6⅝ inch O. D. size. On the Smith electric weld steel pipe we have a 3.10 per cent increase on the 16 inch O. D., and 5.05 per cent increase on the 18 inch O. D. and 5.17 per cent increase on the 20 inch O. D.

Q. Now Mr. Richey, in connection with this case Mr. Bid-dison has several times referred to A. O. Smith pipe. Is [fol. 1141] A. O. Smith pipe the pipe which you have here designated as Smith weld?

A. Yes, that's right.

Q. Now in relation to Smith weld bell and spigot pipe, what is the trend?

A. The trend is slightly upward, showing a percentage of increase of 2.82.

Q. Now all of these prices which appear throughout your Exhibits 33 and 34 covering the pipe are based upon quotations as given by the manufacturers therein named?

A. That is correct.

Q. And do you know that in respect of the prices shown under the column dated June 11, 1934, that they are the net prices and the lowest prices available to the Lone Star Gas Company as of this date?

A. I do.

Q. Refer please to page 6 of Exhibit 34. What do you show on that page?

A. We show casing and tubing, and show that the price trend from January 1, 1933, up to June 11, 1934, is definitely upward.

Q. On the tubing, lapweld threaded and coupled, it would appear that in relation to the two inch size, the increase is as much as nine per cent?

A. That's right.

Q. And that the lowest percentage of increase is approximately two per cent on other items listed on that page?

A. That is correct.

Q. Mr. Richey, has there been any change in the price [fols. 1142-1143] level of valves and fittings over a period of the last several years, and more specifically within a period of the last year and a half?

A. There has. The trend of prices on valves and fittings has been definitely upward over a period of a number of years, and the trend has been very sharply upward during the year 1933.

Q. Have you prepared an exhibit for presentation in this case reflecting a compilation of statistics showing price trends in relation to typical valves and fittings?

A. I have.

Q. Is this the compilation to which you have referred, the same being styled on the title cover, "Lone Star Gas Company, Price Trend of Typical Valves and Fittings"?

A. It is.

Q. We offer the exhibit so identified by the witness in evidence.

[fol. 1144] (Thereupon the document above referred to was marked as Defendant's Exhibit No. 35.)

Q. Mr. Richey, turn to Exhibit 35 and explain how you arrived at the price trends set forth on page 1 thereof.

A. We have adopted a figure of 100, or \$100.00, as you might like to call it, and have applied the base and preferential discounts appearing in the discount sheets of the Walworth Company, arriving at net costs f.o.b. the factory on the various dates that the discount sheets were published, or net costs f.o.b. destination, and have adopted a percentage of 100 for the figures applying to the first discount-sheet which was published on July 8, 1925, and which was available to us.

[fol. 1145] Q. Now, do the figures 30, appearing after 7-8-25 indicate the discount sheet?

A. That is the base discount.

Q. Then what is the subsequent discount?

A. The 25 and 10 per cent is the discount for direct factory shipments, and 2 per cent is the cash discount for prompt invoice payment.

Q. Now having made those deductions from \$100, you got a net price F. O. B. factor of \$46.31 as of that particular date?

A. Yes.

Q. How did you compute the amount of the freight?

A. By taking an average of the actual amounts of freight applicable to the standard globe and angle valves, and arriving at it on a percentage basis.

Q. You therefore got the net cost of that valve equipment F. O. B. the destination, or rather determined it to be \$47.78?

A. That is correct.

Q. And you took \$47.78 as representing your base percentage of 100?

A. That is correct.

Q. Now, in a similar manner, do you on page 1 of Exhibit 35 show the dates as of which you made the determination of the net F. O. B. factory costs, set forth the base and preferential and cash discounts, the amount of the freight, the net cost F. O. B. destinations, and the percentage relation to the base percentage of 100 on July 8, 1925?

[fol. 1146] A. I have.

Q. At the bottom of page 1 of Exhibit 35, it would appear that on April 1, 1934, you have made no allowance for freight on the shipment of these valves from the factory?

A. That is correct.

Q. Why is that.

A. On page 1—Yes, on April 1, 1934, the Walworth Company began allowing full freight on L. C. L. shipments, regardless of weight.

Q. What do you mean by allowing the full freight on L. C. L. shipments?

A. To allow the full freight on shipments from their factory at Kewanee, Illinois, to destinations in Texas, on 100 pound shipments or more.

Q. Does that mean, in substantial effect, that they paid you the freight or allowed it, as a further deduction from the cost F. O. B. the factory?

A. That is right. The practice theretofore had been to give a freight allowance, but not the full amount of the freight; but on April 1, 1934, they began allowing the full amount of the freight.

Q. And that made a drop or a decline in the price quoted as of December 28, 1933, or rather, over the price quoted as of December 28, 1933, in the amount of 3.08 per cent. Is that correct?

A. From an increase of 29.76 per cent, to 26.68 per cent, [fol. 1147] over the base of 100 per cent.

Q. As of July 1, 1933, what was the percentage relation to the price as of 1925?

* * * * *

[fol. 1148] Q. Just proceed, Mr. Richey, with the answer.

A. I slightly misunderstood the question. The per cent of difference between the one hundred as of July 8, 1925, and that of July 1, 1933, would be 23.52 per cent, as shown.

Q. Yes, sir. Now, the percentage increase as of April 1, 1934 over the price as of 1925 is 26.68 per cent?

A. That is correct.

Q. Or, as expressed here, using 1925 as the base of 100 per cent, April 1, 1934 represents 126.68 per cent?

A. That is correct.

Q. On page 2, have you plotted in the form of a graph or curve the price trend of Standard Globe and Angle Valves—Bronze, which you have detailed on page 1?

A. I have.

Q. And page 2, therefore, shows graphically the trend in Standard Globe and Angle Valves?

A. It does.

Q. Similarly on page 3 of Exhibit 35, do you show the price trend on Standard Wedge Disc Gate Valves?

A. I do.

Q. Iron body, bronze mounted, non-rising stem, screw ends, 2 to 12 inch size?

A. That is right.

Q. And what does the price as of April 1, 1934 bear to [fol. 1149] the— what is the relation of the April 1, 1934 price to the 1925 price?

A. The April 1 price shows an increase of 19.49 per cent over the July 8, 1925 price.

Q. Effective as of April 1, 1934 on these items of Standard Wedge Disc Gate Valves, have the manufacturers commenced the allowance of freight from the factory to destination in Oklahoma or Texas?

A. They have.

Q. And that occasions the apparent drop in price from December 28, 1933 to April 1, 1934?

A. That is correct.

Q. In connection with all of the prices set forth in this exhibit, Mr. Richey, I will ask you if the prices shown as of April 1, 1934 still obtain as of this date?

A. They do.

Q. On page 4 have you set forth in the form of a curve or graph the statistical information which appears on page 3 of the Exhibit?

A. I have.

Q. And which graph shows that the price trend on the Standard Wedge Disc Gate Valves is upward?

A. It does—decidedly upward.

Q. Refer please to page 5 of Exhibit 35. What do you show on that page?

A. I show Standard Double Disc Gate Valves, iron body, [fol. 1150] brass mounted, 200-pounds oil, water or gas working pressure, 2 to 8 inches in size, and show that the April 1, 1934 price as compared to the January 6, 1926 price is 25.51 per cent higher.

Q. And on page 6 of Exhibit 35 have you plotted a graph showing the price trend on the Standard Double Disc Gate Valves?

A. I have.

Q. What do you show on page 7 of Exhibit 35?

A. Page 7 shows Standard Double Disc Gate Valves, iron body, bronze mounted, 200 pounds oil, water or gas working pressure, in 10 to 12 inch sizes; and shows an increase of 9.74 per cent as of April 1, 1934 over the price applicable January 6, 1926.

Q. On page 8 have you similarly plotted a curve showing the price trend in relation to the Standard Double Disc Gate Valves which are detailed on page 7?

A. I have.

Q. What appears on page 9 of the Exhibit?

A. On page 9 we have Double Disc Gate Valves, non-rising stem, iron body, brass mounted, 500-pounds oil, water or gas working pressure, 2 to 6 inches in size; and on April 1, 1934 the price as compared to that applying July 2, 1927 shows an increase of 8.85 per cent.

Q. On page 10 have you again plotted the curve or graph showing the trend of prices on these double disc Gate Valves, 500 pounds working pressure for oil, water, or gas?

[fol. 1151] A. I have.

Q. And does that curve reflect the general upward trend in prices?

A. It does.

Q. What appears on page 11 of your Exhibit 35?

A. Double Disc Gate Valves, non-rising stem, iron body, bronze mounted, 500 pounds oil, water or gas working pressure, 8 inches in size. We show a decrease of approximately 13 per cent on April 1, 1934 as compared to the price applying July 2, 1927.

Q. But as compared with prices prevailing as of December 31, 1931, what is the relation of the present price?

A. December 31, 1931 as compared to the present price shows to be approximately the same.

Q. Has the price trend been upward since July 1, 1931?

A. It has.

Q. Refer please to page 13 of Exhibit 35, what do you show on that page?

A. I show Double Disc Gate Valves, 500 pounds oil, water, or gas working pressure, non-rising stem, iron body, bronze mounted, 10 and 12 inch sizes; and in connection with these valves we show a slight decrease, or a decrease of approximately $1\frac{1}{2}$ per cent as of the price applying July 2, 1927.

Q. What has been the trend of prices for the last two years—or last year and a half?

A. The trend has been slightly upward.

[fol. 1152] Q. Refer please to page 15 of Exhibit 35.

A. On page 15 is shown the price trend on Standard Malleable Fittings, and it shows an increase on April 1, 1934 of 12.54 per cent over the price applying July 8, 1925.

Q. Have you plotted on page 16 the price trend on these Malleable Fittings?

A. I have.

Q. I will ask you if as reflected by the curve or graph on page 16 of Exhibit 35 there is a very marked increase in the price of Malleable Fittings since 1931?

A. There has been.

Q. Refer please to page 17. What is set forth on that page?

A. I have outlined the trend of prices on Standard Cast Iron Fittings, and show an increase of 33.44 per cent as of April 1, 1934 over the price applying July 8, 1925.

Q. I will ask you, Mr. Richey, if since 1931 there has been a very marked increase in the price of these Standard Cast Iron Fittings?

A. There has been.

Q. And is that reflected by the curve or graph on page 18 of Exhibit 35?

A. It is.

Q. Has there been a very decided increase in those prices since January 1, 1933?

A. There has been.

Q. Now, Mr. Richey, is this generally true: That on prices [fols. 1153-1157] covering representative valves and fittings found in the Lone Star Gas Company system that the prices for valves and fittings as used by Mr. Biddison in Defendant's Exhibit 28 is appreciably below the now prevailing price for such valves and fittings based upon the maximum discounts which are available to the Company?

A. That is correct. I might state that there was an increase of ten per cent in Dresser Couplings on December 15, 1933.

Q. Now, you have no exhibit prepared showing the increase in the price of Dresser Couplings?

A. No, sir.

Q. But they have appreciably increased in price since January 1, 1933?

A. They have, ten per cent.

Q. And there has been a marked increase over the price used by Mr. Biddison in Defendant's Exhibit No. 28?

A. That is correct; and from the information we have been able to obtain through our contact with various supply companies and manufacturers it is most likely that any changes in price in the immediate future will be upward.

* * * * *

[fol. 1158] Q. Now, Mr. Richey, your Exhibits 33, 34, and 35 disclose definitely the upward trend of prices in relation to Oil Country Tubular Goods, and in relation to line pipe, and in relation to valves and fittings?

A. That is right.

[fols. 1159-1160] Q. In respect to other items of property which are inventoried and appraised in Defendant's Exhibit 28, would you say that the price trend has been upward or downward since January 1, 1933?

A. Through information we have been able to obtain generally by contact with various representatives of material companies and manufacturers and supply companies, etc., the price trend on almost every commodity has been upward. While I have nothing with me to substantiate it, I personally know that material prices have increased very materially, in some cases over fifty per cent, within the past year. Office furniture and fixtures have increased from fifteen to thirty per cent within the past year.

* * * * *

[fol. 1161] E. A. STEINBERGER, a witness for defendant, was recalled for further Cross-examination, and testified as follows:

Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Steinberger, when you were on the stand before you were asked for a classification on excavation on some line. What line was that?

A. Line B, from Petrolia to Fort Worth, Texas.

Q. Have you gotten that classification prepared?

A. I have that classification prepared; yes, sir.

Q. You have that data with you?

A. Yes, sir. However, it is not prepared in exhibit form, Mr. Fitzhugh. I have merely prepared it in pencil form.

Q. That is all right. Now, as you testified heretofore, I believe, Line B and Line Second B run parallel from some point near Petrolia down to about Rhome, Texas, where they diverge; is that right?

A. That is correct.

Q. What is the station number at the point where Second B leaves Line B?

A. I don't remember the exact station number, Mr. Fitzhugh, but it is approximately three or four miles north of Rhome.

Q. You can locate that point in your tabulation, can you? [fol. 1162] A. No, I can not, because my tabulation is on Line B only, but I can give you the approximate mileage from Petrolia; it is approximately sixty miles south of Petrolia, which would be Station 3,170 plus double 0.

Q. That is approximately, then, the point of divergence?

A. That is it, approximately. It may be a mile or two off.

Q. Starting at that station, now, on Line B can you give the classification of excavation from that station to the end of the line south?

A. Yes; I can give it to you every five hundred feet, which would be a distance of approximately thirty miles.

Q. How many stations will that be, approximately?

A. It would be 388 locations or observations.

Q. In order to give the excavation classifications for that portion of the line will it be necessary for you to read the classification of each one of those stations?

A. Yes, Mr. Fitzhugh, because I do not have the classifications segregated.

Q. Well, suppose we give you some time and call you back at some future time, could you have it worked out so as to show that?

Mr. Griffith: Now, Your Honor, these witnesses have plenty to do without making classifications for Mr. Fitzhugh. We want to give all the information we can, but Mr. Fitzhugh would have the witnesses working every night.

Mr. Fitzhugh: All right, Mr. Griffith.

Q. Then go ahead, Mr. Steinberger, and read every station classification into the record. [fol. 1163]

A. Station No. 3,176 plus nought nought, machine earth excavation, trench depth 26 inches. Station No. 3,175 plus nought, nought, machine earth excavation, trench depth 15 inches. Station No. 3,180 plus nought nought—

The Court: Gentlemen, is it necessary to read all 388 of those?

Mr. Fitzhugh: I didn't think so, Your Honor. That is the reason I asked him to work it out.

The Court: What is it you want?

Mr. Fitzhugh: I want to get the classification of excavation on Line B.

The Court: How long would it take to do that, Mr. Steinberger?

Mr. Fitzhugh: We asked for it several days ago and thought we could get it.

A. Well, Mr. Fitzhugh, you just told me to bring the observation. You didn't tell me to make the classification.

Q. Well, you might be right about it.

A. If you had asked me, I would be glad to do it.

Q. How long would it take?

A. Possibly an hour or an hour and a half. I will have to have an adding machine.

The Court: I am just expressing my views about it. I am sitting here as a court. I am not going to require one side to do a lot of figuring for the other side. If the witness is willing to do it, I am sure they will appreciate it, [fol. 1164] but I am not going to make an order requiring the witnesses for either side to make a lot of calculations.

Mr. Fitzhugh: All right. If the witness says he does not know, that is all right.

Mr. Griffith: Your Honor, with the expression by the Court, the witness will be glad to comply with the suggestion and will devote the next hour and a half to do it.

The Court: Very well, Gentlemen. All right, Mr. Fitzhugh. Go ahead.

Q. Do you have that same sort of data on Line A?

A. No, I do not, Mr. Fitzhugh.

Q. Well, can you procure, Mr. Steinberger, and furnish to us the same sort of classification on the portion of Line A that goes through the State of Oklahoma?

A. To have the record clear, please tell me in detail just what information you want on that, so I can have it segregated.

Q. I would like to have the percentage of earth excavation, the percentage of rock excavation, and the percentage of machine excavation, on the portion of Line A that traverses the territory within the State of Oklahoma.

A. I will be glad to get that information to you some time next week, Mr. Fitzhugh. That line is about 108 miles long. It will take some time to make the calculation.

Q. Well, there is only about forty miles in Oklahoma?

A. That is correct, but in order to have the balance you would have to work both portions.

Q. Well, all you would have to do would be to take the readings of the stations in that forty miles?

[fol. 1165] A. Yes, but the information I have now is in percentages. I would have to have the figures to work the percentages.

Q. On the lines where you made machine excavation studies you also made the same studies as to the hand excavation in connection with the machine, did you not?

A. Yes, sir.

Q. Now, what was the percentage of hand excavation in connection with machine?

A. I don't know, Mr. Fitzhugh. I didn't make any segregation as to the percentage of hand excavation and machine excavation.

Q. Did you make a study on hand excavation?

A. Yes, sir.

Q. Do you have that to refer to now?

A. Yes, I expect I can refer to it. It is about ten thousand cubic yards. Do you want me to read all the lines into the record, Mr. Fitzhugh?

Q. Will you read the lines studied, cubic yards of hand excavation on each, and the percentage of hand excavation?

A. Per cent of hand excavation? I can give you the per cent of hand and machine earth excavation on the lines I have studied and the yardage of hand excavation. I do not have the yardage of machine excavation in a form I can get to it, but I can refer to additional data figures. Line K-B, 16 inch, 3,157.7 yards. The per cent of excavation on that line was: Machine, 91.5 per cent; hand—I have a composite figure here, Mr. Fitzhugh, of hand and [fol. 1166] rock, 8.5 per cent.

Q. Well, now, these percentages that you give, are they percentages that apply to the whole of K 16 inch or the cubic yards?

A. No, the entire 16 inch line of 123,347 feet.

Q. Well, isn't the 3157.7 the amount included in your study?

A. It is 123,347 lineal feet of trench.

Q. Well, what is the cubic yardage in your hand earth excavation study, then?

A. I don't have it segregated here.

Q. Well, how were you able, Mr. Steinberger, without making such a separation, to make the study of it—how were you able to reason anything from it?

A. Mr. Fitzhugh, I do not have the complete data before me. I have here the combined excavation of hand and rock. Now, if you desire the information I will be glad to have it for you Monday. I will return to Dallas this week-end and get the additional data.

Q. Well, what we are trying to find, Mr. Steinberger, is the data that Mr. Biddison had to have in order to figure out the prices he used in his exhibit.

A. Well, the data I furnished him was complete yardage of hand and my study of it, 10,972.7 yards.

Q. Now, then, in order for Mr. Biddison to reason anything from the study of that ten thousand yards of excavation he had to know the lines, the cubic yards of excavation, and the per cent of hand earth excavating?

[fol. 1167] A. In order to get the unit cost on that it was not necessary for him to get the additional data, because he used the unit cost derived from this computation over all the system where hand and machine excavation was a composite figure or a composite performance.

Q. All right. Then, if we wait until Monday, Mr. Steinberger, you can have the total yards, the lines that it applied to, and the per cent of hand excavation on each line?

A. Yes, sir.

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ED C. CONNOR, a witness for defendant, having been duly sworn, testified as follows:

Direct examination.

Questions by Mr. Griffith:

Q. State your name, please.

A. My name is Ed C. Connor.

Q. Where do you live?

A. I live in Dallas, Texas.

Q. What is your business, Mr. Connor?

A. I am a Civil Engineer.

[fol. 1168] Q. Are you a graduate of any accredited engineering school?

A. I am a graduate of the University of Texas, from which institution I received the degree of Civil Engineer in 1904 and the degree of Bachelor of Science in 1905.

Q. Following your graduation from the University of Texas in 1905 in what work did you engage?

A. I engaged in railroad engineering for several years. I had charge of maintenance of way on the division of the Houston & Texas Central Railroad from Llano, Texas, to Hempstead, Texas. I then was Resident Engineer on the construction of a swing bridge across the Red River at Shreveport, Louisiana.

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A. I said I was Resident Engineer on the construction of a swing bridge across the Red River at Shreveport, Louisiana. Upon the completion of that work I moved to Dallas and became connected with the Texas Bitulithic Company, which was at that time and is now one of the largest companies engaged in the construction of roads, streets, and similar public works. During my connection with that company I had charge of practically all jobs of construction activities. Finally, I became General Superintendent in charge of construction. I then became Chief Engineer for J. W. Thompson Company, a general contractor, and the [fol. 1169] work that I did for Mr. Thompson was in connection with the construction of the Union Terminal at Dallas, Texas.

Q. Is that the railway terminal where all the railroads enter and depart from the City of Dallas?

A. That is correct. The work there consisted of the construction of the station, the building of the track layout, the building of bridges, power-houses, and round-houses, and the movement of more than 2,000,000 yards of earth. Upon the completion of the Union Terminal in Dallas I became General Manager of a large contracting firm which specialized in the construction of roads and bridges, storm sewers and other similar types of construction. During the War I resigned my position with the company, and was assigned by the State Highway Department to represent the State in conjunction with the representatives of the Bureau of Public Roads, in the matter of the priority of the movement of materials of construction into the State of Texas. In 1919 I became Chief Engineer and Supervisor of Public Utilities in the City of Dallas. The City of Dallas, controls

through the operation of its franchises, all capital additions to each of the utilities which operate in the City of Dallas, with the exception of the Telephone Company. It was my duty to approve all capital additions to each of the utilities in the City of Dallas, and to pass on their charges as to whether or not they were operating on capital charges, during the years 1919 and 1920. During this time, in association with Mr. Grover C. Bland, as representing the City of Dallas, I made an investigation of the property of Lone Star Gas Company, and in connection with Mr. Wesley Shaw, of the United States Bureau of Mines, I made a complete investigation of the gas supply commercially available to the City of Dallas. During that time there was an inadequate supply of natural gas available, and the City of Dallas delegated me, in association with Mr. Wesley Shaw, of the Bureau of Mines, to make an investigation of the gas supply available to the City at that time. Later, in association with Mr. P. L. Ports, also of the United States Bureau of Mines, I made a supplementary report to the City of Dallas, covering the investigation of the gas reserves and the cost of production of gas in the area adjacent to the City of Dallas. In the year 1920 I became a Consulting Engineer, operating on my own account, specializing in work in connection with public utilities; and I have been engaged in that work continuously since that time.

Q. Commencing in the year 1920, when you launched your activities as a Consulting Engineer, will you please relate in a general way to the jury the nature of the work you have [fol. 1171] performed, and the various clients which you have served?

A. As a Consulting Engineer I have represented the Cities of Hillsboro and Belton, Texas, in a rate case in the Federal District Court, involving the charges for electric light and power. I have also represented the City of Brownwood in a similar piece of work. I represented the City of San Antonio in the preparation of schedules for the sale of natural gas, prior to the introduction of natural gas into the City of San Antonio. I represented the City of Corpus Christi in the matter of the design and construction of a natural gas system built by the City of Corpus Christi; and I have represented the City of Corpus Christi continuously since that time in any matter pertaining to the operation of the natural gas system. I have also represented the City of Marlin, and other communities in the State of Texas. I have

represented the Texas Power and Light Company, the Orange Light and Power Company, and other electrical companies in the State of Texas.

Q. More specifically, Mr. Connor, what have you done in connection with the natural gas business?

A. I think it was in 1921, or thereabouts, that I became—I was retained by the Lone Star Gas Company, and I have [fol. 1172] been retained by the Lone Star Gas Company, as a Consulting Engineer since 1921.

Q. And you now have offices in the Lone Star Gas Company's general office building at Dallas?

A. That is correct. I have represented Municipal Gas Company before its acquisition by Lone Star Gas Corporation, and since its acquisition by Lone Star Gas Corporation. I am now, and have been since the date of its organization, Consulting Engineer for Community Natural Gas Company. I have represented the Brownwood Gas Company as a Consulting Engineer before its acquisition by Community Natural Gas Company.

Q. Is that the Gas Company doing business in the City of Brownwood, Texas?

A. That is correct. It is now a part of Community Natural Gas System. I have represented the Shreveport Gas and Electric Company, the Company which distributes natural gas in the City of Shreveport, Louisiana. I represented the Arkansas Natural Gas Company, and the Texas Cities Gas Company before its acquisition by Lone Star Gas Corporation, and since its acquisition by Lone Star Gas Corporation. I have represented the Dallas Gas Company and the County Gas Company, which companies serve the metropolitan area of the City of Dallas with natural gas. [fol. 1173] I represented the Palmer Corporation before it became a part of the United Gas System.

Q. What is, or what was the Palmer Corporation, Mr. Connor?

A. The Palmer Corporation was a large natural gas producing and transportation company which served the City of Shreveport, Louisiana. I represented the Houston Gulf Gas Company as its Consulting Engineer, from the inception of that company, or even prior to the inception of that company, and acted as General Manager of the company, and served as a member of the Board of Directors of that company during the period of time that the property was being constructed.

Q. Is that a large natural gas pipe line company transporting gas from the point of production in Refugio County, Texas, to the City of Houston, Texas?

A. That is correct. I also represented the owners of the Dixie Pipe Line Company in the preliminary stages of the development of that company. Both of those companies are now a part of the United Gas System; in fact, I would say that they were really the companies which form the basis of the United Gas Company's present organization.

Q. That is the company that is engaged in the supplying of gas to Houston, Beaumont, Port Arthur, Orange, and [fol. 1174] San Antonio, among others?

Q. Also the City of Austin?

A. That is correct. I have represented the Gas Service Company, of Kansas City, Missouri, on several occasions, as well as the Industrial Gas Company, of Marshall, Texas, the Empire Gas and Fuel Company, and the Coleman Oil and Gas Company.

Q. Now, the latter company, where does it operate?

A. It operates in Central West Texas.

Q. Mr. Connor, as Consulting Engineer, have you ever represented investment bankers who were interested in natural gas projects?

A. I have.

Q. Or in their financing?

A. I have.

Q. Will you please relate in a general way the nature of the services that you rendered in that connection?

A. I made reports on properties that were in contemplation—the financing of which was being contemplated by these particular investment bankers, and it was really upon the insistence of the investment bankers who had underwritten the Houston Gulf Gas Company that I accepted the position of General Manager of that company during the period of its construction.

Q. Mr. Connor, have you ever done any considerable [fol. 1175] amount of appraisal work in connection with natural gas properties?

A. I have, yes, sir.

Q. Will you please relate in a general way the several appraisals or rather the main appraisals which you have made of natural gas properties?

A. I made an appraisal of the property and business of the Lone Star Gas Company in 1925; I also collaborated

with Mr. E. A. Steinberger in the preparation of the reproduction cost of the property and business of Lone Star Gas Company as of December 31st, 1931; and, in collaboration with Mr. P. McDonald Biddison and Mr. Steinberger, I have collaborated in the preparation of the appraisal which is now, or which has been presented in evidence in this hearing.

Q. And which appraisal of the Lone Star Gas Company's public service property we know as Exhibit 28 in this case?

A. Exhibit 28, that is correct. I have made an appraisal of the property and business of the Brownwood plant of the Community Natural Gas Company; and I have collaborated with Mr. Steinberger and the valuation section of Lone Star Gas Company in the preparation of a large number of appraisals of individual plants located in the States [fol. 1176] of Texas and Oklahoma. I made an appraisal of the property of the Fort Worth Gas Company in 1923, at the time that the property was acquired by the Lone Star Group. I also made an appraisal of the property and business of the company in 1928; and another appraisal of the same property, in 1931. I have made an appraisal of the property and business of the plant of the Texas Cities Gas Company located in Waco, Texas, which appraisal was made for the owners of that property before it was acquired by the Lone Star Gas Corporation. I have also made an appraisal of the property and business of the gas plant located at the City of Galveston, Texas. I made an appraisal of the transportation and production properties and the business of the Palmer Corporation located in Louisiana. I have made an appraisal of the property of the Gas Service Company located in Wichita, Kansas. I have also made an appraisal of the properties of the Coleman Oil and Gas Company.

Q. Now, in addition to the several appraisals which you have made, have you made and prepared investigations and reports covering the costs of construction, and probable gross and net revenues of natural gas projects?

A. I have. As I have stated before, I was connected with the enterprise which ultimately became the Houston Gulf Gas Company from the very inception of the project; in [fol. 1177] fact, it was on my suggestion to Messrs. Moody and Seagraves that that property was initiated; and for these gentlemen I prepared a market analysis of the City of Houston and its environs, and made an estimate of the

cost of building the line, and an estimate of the probable earnings which would be derived from the operation of the line, in order that these gentlemen might present the facts to the people from whom they hoped to secure the money with which to build the property.

Q. What do you mean by a market analysis, Mr. Connor?

A. I mean by that an analysis of the probable use of gas which will be developed in a community over a period of years after the introduction of natural gas into that community. A study of that sort would include an analysis of the probable sales of domestic gas, as well as the probable sales of gas to industrial consumers. I also assisted the firm, or collaborated with the firm of Sanderson & Porter, of New York, in the preparation of the original estimates for the Dixie Pipe Line Company; and it was upon these estimates that the money was secured for the construction of this line, which, as I have stated before, is now a part of the United Gas System. For the Benedum Trees Interests of Pittsburgh, Pennsylvania, I prepared an estimate of [fol. 1178] the cost of construction, the cost of operation, and the probable income of a natural gas pipe line from northern Louisiana to the City of St. Louis, Missouri; and in connection with this estimate I also prepared a market analysis of the City of St. Louis. For the same interests I also prepared an estimate of the cost of construction, cost of operation, and probable income of a natural gas pipe line from northern Louisiana to Memphis, Tennessee; and in connection with this report I also made a market analysis of the City of Memphis. I prepared an estimate of the cost of construction and the cost of operation, and the probable net income of a natural gas pipe line from the Three Rivers Field in Live Oak County, to the City of San Antonio. This work was done for J. E. Jarrett & Company, investment bankers. For the Palmer Corporation of Shreveport, Louisiana, I prepared an estimate of the cost of a pipe line, and the earnings which might be derived from this line, and the business which could be secured from the holdings of this company in eastern Louisiana, to Vicksburg, Jackson, Meridian, Bogalusa, and Hattiesburg, Mississippi.

Q. More specifically, now, Mr. Connor, what has been your main activity for the last ten years in relation to the Lone Star Gas Company's property?

[fol. 1179] A. My activities in connection with the Lone Star Gas Company have been varied. I have been called upon from time to time to acquaint myself with practically every phase of the Company's business and operations; I have had an opportunity to become familiar with each and every department which constitute the operating and construction organization of Lone Star Gas Company. For the past several years I have been closely associated with the work done by Mr. E. A. Steinberger, and have collaborated with Mr. Steinberger in the collection and assimilation of data which are important in determining the costs of construction. Since 1927 I have devoted a very substantial part of my time to the study of the behavior of steel pipe, once it is laid in the ground and put into service. I have analyzed the records of Lone Star Gas Company from the day that the first pipe was put into the ground up until the middle of the year 1933, for the purpose of determining exactly what had happened to each foot of pipe that had gone into the ground in that system.

Q. In other words, did you start with the commencement of the Company's operations in 1909, and make a complete analysis of all replacements, abandonments and removals of steel pipe in the Lone Star System from 1909 to July 1st, [fol. 1180] 1933?

A. That is correct—I have done so, and in connection with that work I have attempted to familiarize myself with the behavior of the other equipment, and all of the causes which would contribute to the failure of that equipment, the removal of it, the replacement of it, or the taking it out of service. I have extended that study recently to include each and every town which has a distribution plant and which is owned and operated by the subsidiary companies of Lone Star Gas Company—

Q. Corporation?

A. Corporation,—for the purpose of ascertaining the behavior of steel pipe in those cities and towns. That study of the Lone Star Gas Company's system covered the history of over sixty million feet of equivalent 3-inch diameter pipe, and the study of these town plants covered the history of approximately sixteen million feet of equivalent 3-inch diameter pipe.

Q. Have you had any occasion, Mr. Connor, to make a study of the life of gas wells in the territory wherein Lone Star Gas Company produces and purchases gas?

A. I have. I have acquainted myself, I think, with every factor which would have a bearing upon the probable life [fol. 1181] of gas wells now connected to the Lone Star Gas Company's system, and have analyzed and studied the source of supply of Lone Star Gas Company, and the behavior of these sources of supply, with reference to their rate of decline, for the purpose of ascertaining the probable rate at which gas will be taken from these sources of supply in the future.

[fol. 1182] Q. Mr. Connor, have you made any studies on a large scale in respect of the replacement, retirement and abandonment of steel pipe in any particular community?

A. Yes, in the city of Fort Worth, but I have amplified that study to include all of the plants of the Community Natural Gas Company, as well as practically all of the plants of the Municipal Gas Company. The sole exceptions to the cities operating under the Lone Star group for which I have not made studies are the cities of Dallas, Waco, El Paso and Galveston. The City of Dallas affords a very poor source of information for the reason that most of the pipe in the distribution plant in the city of Dallas is cast iron pipe.

Q. And of course in connection with the Lone Star Gas Company appraisal and a determination of the annual amount required for depreciation, depletion and amortization, we are concerned only with steel pipe as distinguished from cast iron pipe?

A. That is correct. There is no cast iron pipe in the Lone Star Gas Company system.

Q. In addition to the other studies which you have made, Mr. Connor, have you made studies covering or relating to the replacement, retirement and abandonment of gas meters and gas services?

A. I have accumulated data wherever it has been possible to do so, concerning each item of property used and useful in the natural gas business.

[fol. 1183] Q. Mr. Connor, have you ever made any original studies for the purpose of determining the effect of the rate of growth of utility properties upon the annual replacement of property units, expressed as a percentage of the units installed?

A. Yes, I have.

Q. Have you similarly made studies as to the relation of annual renewals of physical property to the per cent condition of new of physical property?

A. Yes, I have.

Q. Have you made similar studies concerning the factors of amortization of physical units of property, and the relation of such amortization to the replacement of units of the same property?

A. That is true, specifically with reference to the property of the Lone Star Gas Company. Of course each problem of that sort would be peculiar to an individual property.

Q. By the way, Mr. Connor, what do you mean by the term "amortization"?

A. I mean by the term amortization the setting up of a uniform annual sum, which at the end of a given period will equal a sum of money for which the accumulation was designed to provide.

Q. Can you give some simple illustration of the application of an amortization fund?

A. Yes. If you had a lease and built a building on a piece of leased ground that cost you \$100,000.00 to build, and your lease would expire in fifty years and the right of possession of the building would revert to the owner of the land, then in order to make yourself whole at the time of the expiration of your lease you would of necessity have to set up some sum of money which, accumulated at the end of fifty years would equal \$100,000.00. Now the usual way in which an accumulation of that kind is estimated is to compound it annually at some predetermined rate of interest. It is never contemplated that a sum of that sort will be used except at the terminal point of the accumulation.

Q. In other words, in the case of the illustration which you have used, of a lease terminating at the end of fifty years, do you mean that it is not contemplated that the sum will be used until the fiftieth year had expired?

A. That is correct, and that is what the term amortization is generally construed to mean.

Q. Mr. Connor, have you made any studies relative to the acquisition of business by natural gas companies and the development of the use of natural gas in communities?

A. I have made extensive studies of the rate at which people will take on natural gas service, once it has been in-

roduced into the community in which they live. And not only the rate at which the number of consumers will increase per year as measured in the numbers of the inhabitants, but also the rate at which these consumers will increase their consumption in the years following the introduction of natural gas service.

Q. Have you made specific studies, Mr. Connor, in relation to the attachment of business on the Lone Star Gas [fol. 1185] Company pipe line system, both in relation to domestic gas sales, sometimes referred to in this case as residential gas sales, and also industrial gas sales?

A. I have. I have studied the largest cities on the system; that is, Fort Worth and Dallas and they constitute the two largest markets, as well as the small communities. The Lone Star Gas Company serves a large number of very small towns, and the rate at which the largest cities will take gas, or rather, the rate at which the number of consumers will increase and the rate at which the consumption of gas will increase, is very different from the rate at which the business can be attached in the smaller communities. In the smaller communities, the saturation, if I may use that term, is completed much more quickly than in the larger cities.

Q. What do you mean by "saturation", Mr. Connor?

A. I mean the normal amount of business which you can expect to secure in a given community, represented by the number of meters per thousand inhabitants, and the number of cubic feet of gas per meter which you may expect to sell.

Q. Mr. Connor, as a result of your experience, do you feel that you have an intimate knowledge of all phases of the natural gas business?

A. Yes, perhaps with the exception of the geology of natural gas and the technique of the drilling and completion of natural gas wells.

Q. But you have had experience in all other phases of the business?

A. Yes, I have.

[fol. 1186] Q. Mr. Connor, if we refer to page 6 of Volume 1 of what we know in this case as Defendant's Exhibit 28, do we find that page to contain a recapitulation of the general and undistributed costs, of the preliminary and organization costs, of the working capital, and of the going con-

cern value as determined by you in connection with that appraisal?

A. That is correct, and there is also included in the Exhibit No. 28 my estimate of the cost of final engineering records and certain costs of supervision, which I determined independently in connection with this appraisal.

Q. Now, Mr. Connor, in support of your evaluation of the preliminary and organization costs, and the general and undistributed costs, and the amount of working capital required, and the going value or business development which the company has had, have you prepared Volumes 7 and 8, as following Volumes 1 to 6, inclusive, which have previously been introduced in evidence and styled Defendant's Exhibit 28?

A. I have.

Q. Are these the volumes, Mr. Connor, of the inventory and appraisal of the public service property of the Lone Star Gas Company as of January 1, 1933, which cover in detail the evaluation of the preliminary and organization costs, the general and undistributed costs, the working capital, and the going value in connection with the Lone Star Gas Company's property?

A. That is correct.

[fols. 1187-1188] Mr. Griffith: We offer in evidence the volumes so identified by the witness, as Volumes VII and VIII of Defendant's Exhibit Number 28.

(Thereupon the document above referred to was marked as Defendant's Exhibit No. 28, Volumes 7 and 8.)

Mr. Stout: May we interrogate the witness with a question or two, please your Honor?

The Court: Yes.

Questions by Mr. Stout:

Q. Mr. Connor, you make no segregation between property in Oklahoma and property in Texas, do you?

A. No, sir, not in this exhibit.

Q. None whatsoever?

A. No sir. These volumes apply to the property of Lone Star Gas Company as a whole.

Q. You make no segregation in regard to overheads, as applying to what might be, if any, interstate business, or intrastate business or property?

A. No sir, I have made no such allocation.

[fol. 1189] Questions by Mr. Griffith:

Q. Mr. Connor, if we refer to Volume 7 of Exhibit 28, what do you show on pages 2 to 8, inclusive?

A. I set out the nature of the work which I have attempted to do. I show its relations to the portion of the [fol. 1190] appraisal which has heretofore been introduced, and I set out also a statement of the manner in which I proceeded to do the work in connection with the preparation of the estimate.

Q. Without reading, but attempting to summarize the method that you have pursued in the evaluation of the preliminary and organization or development costs, and the general and undistributed costs, Mr. Connor, I will ask you to state your method of arriving at those costs, in just a general summary to the jury.

A. Mr. Biddison, in the estimate which he has presented, confines his findings to those costs which can be specifically identified with units of physical property, and the cost of constructing these units of physical property.

[fol. 1191] Q. In other words, what Mr. Biddison described as Direct Structural Costs of the Physical property?

A. That is correct. The costs that Mr. Biddison incorporated in his estimate began with the beginning of actual construction and ended with actual construction, and only included such costs as could be described as Direct Structural costs. Now, if we set out to reproduce the property and business of Lone Star Gas Company, there would be a great many other items of expense than those which have to do with the Direct Structural Costs. Some of these expenses would be incurred substantially beyond a period of time during which actual construction took place. Some of the costs would follow the period after the plant had been completed, and there would be certain costs of a nature so general that they could not be allocated to specific property items, nor can they be inventoried and priced; but they are, nevertheless, real actual costs that would be met in the reproduction of the Lone Star Gas Company, and they would be met in the reproduction or reconstruction of any other gas company.

Q. And historically, have such costs actually been encountered and experienced in connection with the construc-

tion of other natural gas properties of a substantially similar character?

A. That is correct.

Q. And based upon your own experience, have you actually [fol. 1192] ally participated in those costs and seen those costs incurred?

A. I have. Now, these costs, in view of the fact that they cannot be inventoried and priced from catalogs and quotations, must be approached in a different manner when an estimate is to be made. Frequently, estimates of the general and undistributed costs, preliminary and organization costs, and the cost of business development, are made by the application of a percentage to the physical property—of the costs of the physical property. I was not willing to follow that method. I made it my business in connection with my association with the Lone Star Gas Company to study each and every department in that organization that would find its counterpart in the reproduction of this property, and I made it my business to learn the duties of each and every individual who would be engaged in the various tasks which would be necessary to reproduce this property, and it was in that way that I have made this estimate.

Q. Did you endeavor in the making of this estimate of the general and undistributed costs, Mr. Connor, to apply, in so far as possible, the actual historical development of the property?

A. Yes and no. There are certain phases of the historical development of the property which would not be at all applicable to the reproduction of the property. For instance, [fol. 1193] when the Lone Star Gas Company was organized back in 1909 it consisted of one 16-inch pipe line from the Petrolia Field to Fort Worth and to Dallas, and received its supply of gas from a few wells located in the Petrolia Field. That was the initial stage of the Lone Star Gas Company as it has developed from that time. Now, the organization of a company of that magnitude or that size would have no relation whatever to the organization of the Lone Star Gas Company as it exists today; and so, in that way, I could not, and did not give any consideration to the historical experience of the Company, exactly in the same manner that Mr. Biddison in his estimate of reproducing the physical property gave no consideration to the fact that back in 1909 they did not use automobile trucks to trans-

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port pipe, or that the ditching machines in those days were not at all comparable to the ditching machines they use today.

Q. Or that the price of pipe in 1909 was comparable to today's cost for pipe?

A. That is correct. In other words, a reproduction cost estimate, as I view it, must take into consideration the thing which you are attempting to reproduce; and, so, the preliminary development and organization expenses which might have been historically incurred in the organization of a very small company back in 1909 would not form the basis for an estimate of what it would cost in the matter of pre-[fol. 1194] liminary organization and development expenses if the Lone Star Gas Company were to be reproduced today.

Q. Now, Mr. Connor, if the Lone Star Gas Company's public service property were to be reproduced today, would somebody just haul off and start tomorrow with the business of constructing pipe lines and drilling wells and building structures?

A. No. I think it is perfectly obvious that there would be a long period of preparation before the first move could be made to start the construction of the system. In the first place, money would have to be provided, plans would have to be laid, a corporate organization would have to be perfected, and a thousand and one things would have to be done prior to the initiation of expenditures which Mr. Biddison has discussed and covered in his analysis of the costs of construction.

Q. On page 8, of Volume 7, Exhibit 28, do you have a general summary of what you call your Preliminary Development and Organization Costs?

A. Page 8, that is correct.

Q. Now, as Judge Stout has suggested, on page 9, of Volume 7, Exhibit 28, in your classification of Preliminary Development and Organization Costs, you have followed the accounting classification of the Interstate Commerce Commission, as provided for Steam Railroads?

[fol. 1195] A. That is correct.

Q. And all of these costs are catalogued in that accounting classification?

A. The Interstate Commerce Commission's classification of accounts defines what organization expense is, as construed by the Interstate Commerce Commission.

Q. Of course that is not binding on Judge Stout?

A. No; I did not intend for it to be.

Q. But it is a generally accepted accounting classification for this character of expense?

A. That is correct; and I think that it might help in an understanding of some of the subsequent testimony if I should read the definition of the classification as prescribed by the Interstate Commerce Commission, which is as follows: "This account shall include all fees paid to governments for the privilege of incorporation, and office and other expenditures incident to organizing the corporation and putting it in readiness to do business; the cost of preparing and distributing prospectuses; cost of soliciting subscriptions for stock; cash fees paid to promoters, and the actual cash value (at the time of the organization) of securities paid to promoters for their services in organizing the enterprise; special fees; cost of preparing and issuing certificates of stock; cost of securing the necessary permits from State authorities and other like costs." I might state in that connection that the classification of accounts as pre-[fol. 1196] scribed by most regulatory bodies carries a similar definition.

Q. Now, Mr. Connor, historically, the Company actually experienced costs of that character to a greater or less degree, did it not?

A. That is correct. No company could come into being and develop physical properties and put them into operation without the incurrence of preliminary development and organization costs.

Q. In other words, the State of Texas exacts an incorporation fee from the Lone Star Gas Company?

A. Yes, sir; there are certain out-of-pocket expenses that can be readily identified; but, of course, there are other much larger expenditures, which when analysis is made of the business itself, and the necessary steps which must be taken to put it into being, will be greatly in excess of the governmental fees.

Q. Now, all these costs necessary to the completion of the corporate organization, are they just as essential and just as necessary as the costs which are incurred in connection with the construction of pipe lines or the acquisition of lime, brick, mortar, or cement?

A. They are just as necessary, and they are equally as inevitable.

Q. Now, Mr. Connor, upon what basis have you assumed

[fol. 1197] that the Lone Star Gas Company would be re-produced—have you assumed that it would be constructed over any period of time?

A. Yes, I have prescribed a definite period of time for the initiation of the project, the preliminary development and organization period, the period of incorporation, the period which would be required after the property was incorporated up to the time that actual construction could be begun, then the construction period itself, and then the period of time following the construction period which would be required to secure the business now enjoyed by the Lone Star Gas Company. Those periods are divided as follows: The preliminary development and organization period is set out at a year and a half; the pre-construction period, which would consist of that period of time in which materials of construction would be assembled, final plans would be drawn, construction organizations perfected, and so forth, has been set at six months; the actual period of construction I have estimated to be three years; and at the end of four years after the completion of the plant I have estimated that all of the business of the Lone Star which it now enjoys would be secured by an identical plant reproduced at this time.

* * * * *

[fol. 1198] Mr. Griffith: If the Court please, on Wednesday of this week I believe it was, the witness P. M. Biddison was asked to have prepared, for the purpose of furnishing the same to counsel for the State, a complete breakdown of the percentage of hand and machine excavation and the cost per hundred lineal feet on the several pipe line systems designated and included in Defendant's Exhibit 28. That data has been typed and is now handed to counsel for the State.

* * * * *

PAUL RICHEY, a witness for defendant, recalled, testified as follows:

Cross-examination.

Questions by Mr. Fitzhugh:

Q. I believe you stated, Mr. Richey, on direct examination that you are the same Mr. Richey that Mr. Biddison referred to so many times?

[fol. 1199] A. That is right.

Q. You furnished to Mr. Biddison the fundamental price data that he used in pricing out his inventory, did you not?

A. Yes, sir.

Q. And if you have furnished him the wrong prices, to that extent his appraisal would be off?

A. That is correct.

Q. Now, yesterday, in testifying on the various exhibits as to prices on pipe, and valves and fittings prices, you tried to leave with the jury the impression that the trend of those prices was definitely upward?

A. I endeavored to so do.

Q. Take your Exhibit 35, which is your exhibit on the price trend on Typical Valves and Fittings. Turn to page 1 in that exhibit. Now, as shown on that page, based on \$100.00 list price, what is the present net cost f. o. b. destination, for Standard Globe and Angle Valves?

A. \$60.53.

Q. What was it on the date of the quotation previous to the last quotation?

A. \$62.00.

Q. The trend on these valves at the present time is downward instead of upward?

A. On April 1, 1934, as testified yesterday, they are allowing full freight; therefore, the trend on the price delivered is down to the extent of the freight. The trend of the [fol. 1200] price so far as the f. o. b. factory is concerned remains the same.

Q. It is the delivered price that you are particularly interested in, isn't it?

A. Not altogether on a price trend, no, sir.

Q. These valves are going to be used in Texas, aren't they?

A. That is right.

Q. It is the delivered price in Texas that we are particularly interested in?

A. Yes, sir.

Q. And the price delivered as of this date, when compared with the last date shows a downward trend?

A. That is true, but so far as price trend is concerned—

Q. Just answer that "yes" or "no". That is true, isn't it?

A. That is true, but this is a price trend we are testifying about.

Q. Turn to page 3. The next set of valves listed as shown on that page are Standard Wedge Disc Gate Valves, iron body, bronze mounted, non-rising stem, screw ends, 2 to 12 inches, based on \$100.00 list price. What do you show for the net cost f. o. b. destination for these valves?

A. \$53.58.

Q. What was it on the last quotation date previous?

A. \$57.74.

Q. Doesn't that show a downward movement in price on these valves delivered?

[fol. 1201] A. It shows a downward movement delivered.

Q. Now, turn to page 5. There you show Standard Double Disc Gate Valves, iron body, bronze mounted, 200 pounds oil, water or gas working pressure, 2 to 8 inches, based on \$100.00 list price, what is the net cost f. o. b. destination, or the cost delivered in Texas, as of today, as shown on that page?

A. \$66.08.

Q. What was it on the previous quotation date?

A. \$70.44.

Q. That also shows a downward slide in prices, don't it, delivered in Texas?

A. That is correct.

Q. On page 7, the next valves shown are Standard Double Disc Gate Valves, iron body, bronze mounted, 200 pounds oil, water or gas working pressure, 10 to 12 inches, based on \$100.00 list price. What is the last quotation shown on that page, or the cost delivered as of this present time?

A. \$58.39.

Q. What was it as of the previous quotation date?

A. \$63.31.

Q. That likewise shows a downward trend, does it not?

A. Well, it shows a lower price delivered. So far as the trend of the commodity is concerned, it is not a downward trend.

Q. What is it you are interested in, Mr. Richey, so far as the trend or anything else is concerned, except to show [fol. 1202] whether prices are going up or down?

A. I am interested in showing that the trend of commodities is upward, and even though there is a full freight allowance the trend of prices is upward. For instance, we have three or four increases in prices in 1933.

Q. Does it make any difference to the builder of a property in Texas whether he gets the saving in the price of the materials or in the freight-rate on them?

A. Not so far as the building of property is concerned; but so far as the price trend is concerned there would be.

Q. So far as showing a price trend of a commodity delivered, is there any difference in dollars and cents?

A. So far as the delivered price is concerned there would not be.

Q. On page 9 where you show Double Disc Gate Valves, non-rising stem, iron body, bronze mounted, 500 pounds oil, water or gas working pressure, 2 inches to 6 inches, based on \$100.00 list price, what is the price delivered for these valves as of this date?

A. \$44.91.

Q. What was it as of the previous quotation date?

A. \$47.47.

Q. That is likewise downward?

A. That is correct.

Q. Turn to page 11, where you show Double Disc Gate Valves, non-rising stem, iron body, bronze mounted, 500 [fol. 1203] pounds oil, water or gas working pressure, 8 inches, based on \$100.00 list price, the trend of the cost delivered over the previous quotation date in that case is likewise downward?

A. That is right.

Q. The present quotation price being \$36.38, against \$39.49 the previous quotation date?

A. That is correct.

Q. The same thing is true for the Double Disc Gate Valves shown on page 13?

A. That is right.

Q. The price there being \$41.18, as compared with \$44.32?

A. That is right.

Q. The same is true on page 15 for Malleable Fittings, based on \$100.00 list price?

A. It is.

Q. The present price being \$82.29, as against the previous quotation price of \$86.61?

A. That is right.

Q. On page 17, where you show Standard Cast Iron Fittings, based on \$100.00 list price, the present quotation price is \$63.84, as against the previous quotation price of \$69.34; isn't that correct?

A. That is correct.

Q. Doesn't that complete that exhibit?

A. No, sir.

Q. Is there one other page in there?

A. Oh, this exhibit, yes.

[fol. 1204] Q. Was there a single page in that whole exhibit where you showed an upward quotation as of the present time over the previous quotation?

A. There was not.

Q. You introduced another exhibit, Exhibit 34, which attempted to show a trend in prices, did you not?

A. Did show a trend, I would say.

Q. What was that concerned with—pipe, was it not?

A. That is right.

Q. On page one, the first item appearing is Butt weld, Standard, Black—Single Random Lengths?

A. Right.

Q. As shown by the quotations appearing on that page what was the price shown for the last quotation?

A. For $\frac{1}{8}$ -inch size, \$.0284.

Q. That is the prevailing price at the present, is it not?

A. It is.

Q. What was the prevailing price as of the last previous quotation date?

A. \$.0288.

Q. Doesn't that show a downward movement in the price as between those two quotations?

A. It does.

Q. What is the next size of pipe?

A. One-quarter inch.

Q. That also shows a downward trend as between those [fol. 1205] two quotations, doesn't it, the present price being \$.0299 as against \$.0302?

A. That is correct. That is a matter of cash discount.

Q. That is true of every pipe listed as Butt weld, Standard, Black—Single Random Lengths?

A. That is correct. It is a matter of cash discount.

Q. The next classification you show on that pipe is Lap weld, Line, Black—Single Random Lengths?

A. That is right.

Q. The first item shown in that classification of pipe likewise shows a downward trend as between those two quotations?

A. It does.

Q. Is there any price anywhere in this whole classification that does not show a downward trend?

A. As between those two quotations?

Q. Yes.

A. That is correct.

Mr. Griffith: What does it show in respect of the other dates?

A. Shows a decided increase in price.

Q. As compared with what—the price back in 1925?

A. No, sir; as compared with the price on January 1, 1933, or the price on July 1, 1933, or the price on January 2, 1934.

Q. All right. Take the first item of Lapweld, Line, Black—Single Random Lengths, what was the price on January 1, 1933?

[fol. 1206] A. As testified yesterday, the price on 2 $\frac{3}{8}$ -inch O.D., and if I may say so, on up to 4-inch O.D. is down. That was my testimony yesterday.

Q. And it has been all the time, hasn't it?

A. No, sir.

Q. What date are you talking about now, 1925?

A. No, sir; I am talking about the dates in this exhibit.

Q. It has been continuously down since January 1, 1933, hasn't it?

A. Not continuously down—down, and up, and down.

Q. Well, let's see about it. What is the highest price this pipe is shown?

A. Well, the highest price for that size is January 1, 1933.

Q. Yes, sir; so it has been continuously down?

A. Yes, sir; that is right; my mistake.

Q. Now, on page 2, continuing the classification of Lapweld, Line, Black—Single Random Lengths as between the last quotations on every size of pipe listed there the trend has been down?

A. That is correct.

Mr. Griffith: For what?

A. Cash discount.

Q. Does it make any difference what causes the trend downward, just so whoever is building gets the benefit of it?

A. If I may say so, the appraisal date is January 1, 1933, [fol. 1207] and from that date until now the price is definitely upward. The price has been up and down.

Q. Does it make any difference to a builder in Texas who is using materials whether he saves money on the freight-

rates on the price of materials f. o. b. mill, or whether he gets it on preferential, base, or cash discounts?

A. So far as the trend is concerned it does make a difference.

Q. So far as the trend is concerned?

A. Yes, sir.

Q. What difference does the trend make? It is the cash cost of the product delivered in Texas that makes the cash cost of buildings or pipelines built in Texas; isn't that true?

A. No, sir.

Q. All right. For your next classification, Lapweld, Line, Black—Double Random Lengths, for the 12 $\frac{3}{4}$ inch 37.453 pounds, what is the price? quoted today?

A. \$1.4736.

Q. What is the previous quoted price?

A. \$1.4913.

Q. The same sort of downward trend as between those two quotation dates is shown by every sort of pipe in this classification, isn't that right?

A. That is right.

Q. That is likewise true of the Seamless, Line, Black—Single Random Lengths—the trend there as between the last two quotation dates on pipe delivered in Texas, on every [fol. 1208] size of pipe is downward, is it not?

A. The price is downward to the extent of the cash discount; but I cannot agree that the trend is down. The trend of steel pipe is definitely upward, not down.

Q. Well, the quoted price as of today is less in every case than the previous quoted price, isn't that true?

A. That is correct.

Q. What is the particular significance that you attach to this word "trend"?

A. I attach this significance in connection with the interest it might have to the builder of a pipe line, and that is what may be the price in the immediate future. Indications of the figures prepared and shown here show that the trend over a period of one year and a few months is definitely upward, and there is no indication anywhere that it will be down. I happen to know from contact with representatives of pipe mills that any immediate change in the immediate future will be up; and that is to the interest of the builder who proposes to construct a pipe line.

[fol. 1209] Q. Well, now, Mr. Richey, you are no more a prophet than the pipe line representatives themselves?

A. No, I am no more a prophet than they are, but I can make predictions.

Q. Well, whether it be the price of wheat or the price of cotton or the price of automobiles, cows or pipe, it is nothing more than a good guess?

A. It is more than a good guess, I would say, with reference to steel products. Any one that has become familiarized with matters pertaining to the steel industry lately realizes that they have had troubles in connection with labor and so forth, and we have received advices from those mills to expect an increase since this date.

Q. And you know, too, Mr. Richey, that if you really knew exactly what the price of any commodity is going to be, whether corn or cotton or pipe or what not, you would be a rich man from that knowledge?

A. Well, I might be. (Laughter.)

Q. Well, so far you have not shown that great ability?

A. No, sir; I certainly have not.

Q. All right. The next classification is Butt weld, Standard, Black, Single Random Lengths. What price would you have to pay for the largest size pipe there?

A. At the present time \$.1152 per foot.

Q. How is the same size pipe quoted on the previous quotation sheets?

A. \$.1166 per foot.

[fol. 1210] Q. You would not have to pay as much for this pipe now delivered in Texas as you would by the previous quotation, would you?

A. No, sir. It is fourteen ten thousandths of one cent lower per foot.

Q. All right. That is true, is it not?

A. All right, sir. I will check that.

Mr. Fitzhugh: Read that gratuitous statement just thrown in there, will you, please sir?

(Thereupon the Reporter read as follows: "Answer: No, sir. It is fourteen ten thousandths of one cent lower per foot.")

A. That is right.

Q. What is the percentage of drop?

A. I don't know.

Q. Well, it is a little over one and a half cents, isn't it—one and a half per cent?

A. It is the difference between two per cent and one-half of one per cent cash discount. That is correct.

Q. Applying a per cent drop of one and a half per cent to a purchase of twenty million dollars of pipe would be how much?

A. Oh, three hundred thousand dollars, possibly.

Q. That is hardly a negligible amount, is it?

A. Compared to twenty million dollars, it is not a great amount.

Q. Well, there is twenty million dollars' worth of pipe in the Lone Star system, isn't there?

A. I don't know.

Q. On page 4, where you show Buttsweld standard galvanized [fol. 1211] nized single random lengths, Buttsweld galvanized—Buttsweld standard and Buttsweld line are both galvanized—and single random lengths, Lapsweld single random lengths, Buttsweld extra strong, black, single random lengths, Buttsweld extra strong, copperoid, and Lapsweld extra strong, copperoid, single random length, in each case the price that you would have to pay today for this pipe delivered in Texas is less than you would have to pay according to the last quotation?

A. That is right.

Q. And where on the next page you show Republic electric weld, plain end, double lengths, Smithsweld, plain end, and Smithsweld, Bell and Spigot, the same thing is true, is it not?

A. That is correct.

Q. On page 6, where you show casing Lapsweld, threaded and coupled, black, casing seamless, threaded and coupled, tubing, threaded and coupled, lapsweld, black, the same condition prevails, does it not?

A. That is correct.

Q. Does that complete this exhibit?

A. It does.

Q. Now, is there a single item listed anywhere in this exhibit, Mr. Richey, where the price today delivered in Texas is not less than the previous quotation date?

A. No, sir.

Q. Notwithstanding that fact, you say that at this time the [fol. 1212] trend of pipe is definitely upward?

A. I do.

Q. And you prophesy further to say that it will be further upward in the future?

A. No, sir; I don't prophesy that. I have had direct communications from pipe mills stating that that would probably be the case. That is not a prophesy.

Q. Oh, you don't prophesy—you are certain of that?

A. I am certain of the communications I received; yes, sir.

Q. If you are so sure of that, Mr. Richey, why don't you borrow you a little money and go out and buy some pipe and hold it for sixty days and make some money?

A. I don't know where to borrow the money.

Q. Isn't the real reason that you don't know definitely that the trend will be upward?

A. Naturally, I don't know it. I can only use normal intelligence and observe what the pipe mills say. They have a very good idea of the conditions in the steel industry, I think.

Q. Outside of pipe, what is the biggest item of property that appears in the company's appraisal?

A. I don't believe I can answer that. I don't believe I am qualified to.

Q. Well, you do know, do you not, that the compressors form a very sizable item in the appraisal?

A. I do.

Q. What has been the trend of prices on compressors?

A. The prices of compressors as of January 1, 1933, and as of January 1, 1934, have not changed. We are informed [fol. 1213] by the managers of the Cooper-Bessemer Corporation that their costs of manufacture—

Q. Well, now, wait. Is this something you know about?

A. I do know about it; yes, sir.

Q. Or is it another prophesy?

A. No, sir; it is a direct communication from the Vice-President of the Cooper Company, which states that any revision in their prices will certainly be upward. They can't contract for pig iron a year ahead as they once did.

Q. You got that information by letter, did you? We would like to see that letter.

A. I am not sure whether I have it or not. I got the information by letter. I don't know whether I have the letter with me or not, but if I don't, it can be produced.

Q. Well, we would appreciate very much seeing it.

The Court: I wonder if we could not go ahead with the examination and get the letter later.

A. I have the letter.

Q. All right. Will you read it?

A. (Reading.) "We are very glad indeed to enclose the price information as requested in your letter of December 18th. Any changes in prices to date have been noted, and while there is no doubt but what we will be compelled to revise our prices upward at an increase in costs of material and labor, we have no definite way of knowing when a price change of this kind will go into effect. In view of this, the best we can do is to give you the current prices as of today."

[fol. 1214] Mr. Griffith: What is the date of that?

A. January 8, 1934.

Q. What is the date of the letter?

A. January 8, 1934.

Mr. Griffith: Mr. Fitzhugh, you can, of course, examine any of those letters that you desire to see.

Q. Did the letter you have just read from have enclosed with it quotations on compressors?

A. It did.

Q. What was the date of the quotation—also January 8th?—Does the letter of January 8th give you prices as of January first?

A. 1934; yes, sir.

Q. Does it give you prices as of any other date?

A. It does not.

Q. Have you since had a letter from the same people?

A. No, sir.

Q. And the reason you say the price on compressors is still the same is because you would have been apprised of any change in prices had any taken place?

A. They have fifteen machines in stock, I happen to know, and until those are disposed of the prices probably will not be revised upward. Any new machines manufactured will no doubt be at a higher price.

Q. How long has the price quoted you as of January 1, 1934, or, for that matter, as of January 1, 1933—how long has that same price prevailed?

[fol. 1215] A. I don't know exactly how long it has prevailed.

Q. I believe you say you are connected with the Purchasing Department of the Lone Star Gas Company?

A. That is right.

Q. Don't you know as a matter of fact that their quotations show in that department that there has not been any change since about 1927 or 1928, back in there some place?

A. No, sir; I don't know that.

Q. Can you give the prices on compressors for any date prior to 1930?

A. No, sir.

Q. Well, you have prices scattered throughout these exhibits that go all the way back to 1924. Why is it you don't have any quotations on compressors?

A. I didn't prepare them or undertake to secure them.

Q. Well, wasn't that just as important as this trend?

A. Possibly so.

Q. It is a whole lot bigger item than the valves and fittings that you have given an exhibit on here, isn't it?

A. Yes, it is a bigger item, but they both happen to be derived from iron ore.

Q. Well, the only two dates you have that you do have compressor prices on are January 1, 1933, and January 1, 1934?

A. That is correct.

Q. What price do you show on a C. & G. Cooper Horizontal Twin Type 80, Four Cycle Gas Engine, 170 horsepower, 190 revolutions per minute, 18 by 20 inch cylinders, [fol. 1216] direct connected to 10 and 6½ by 20 inch compressor cylinders?

A. Type 80. You want the price as of January 1, 1933?

Q. Give the price for January 1, 1933—yes, sir.

A. I believe it was Type 75. However, I believe it was changed to Type 80.

Q. Well, it is listed in the inventory as Type 80. I am sure I don't know.

A. Well, that is it. I show Type 80, single acting, four cycle, 170 horse-power, 190 R. P. M., with ten and six and a half, did you say?

Q. Yes.

A. That is \$7,940.00 f. o. b. the factory, \$8,628.00 delivered at Breckenridge, Texas. It would be necessary that I have the station there, for these were all figured on carload shipments direct to their respective stations.

Q. What is the engine number of such machine that you have?

A. Well, I have a large number of them. This is in the Caddo station.

Q. Now, for that same engine what was the price January 1, 1934?

[fol. 1217] A. \$7940.00, f. o. b. the factory—the same price.

Q. The same price?

A. Yes, sir.

Q. That is the same price, delivered?

A. \$8619.0740, delivered.

Q. The same price, delivered?

A. About \$9.00 lower, delivered. That is caused by a two-cent reduction in the freight rate.

Mr. Griffith: Two cents per 100 pounds?

A. Per 100 pounds. The machine weighs 51,334 pounds.

Q. Now, these machines are listed as Type 80 in the inventory. Did you apply a Type 80 price on that?

A. No, sir, I was in error in that connection. It is Type 80.

Q. All right.

A. Type 75 is now Type 80. The Company has some of both, however.

Q. Refer to your Exhibit 34, again—the exhibit on Valves and Fittings.

A. Valves and Fittings?

Q. Yes, sir.

A. That is 35.

Q. 34, isn't it?

Mr. Griffith: No, it is 35.

[fol. 1218] Mr. Fitzhugh: All right.

Q. On page 11, where you show Double Disk Gate Valves, Non-rising stem, Iron Body, Bronze Mounted, 500-pound Oil, Water or Gas Working Pressure, 8-inch, based on \$100.00 list price,—the valves appearing on that page, along with the valves appearing on pages 9 and 13, are the valves that are most commonly to be found in the installations on the Company's properties, are they not?

A. Well, now, I would not feel qualified to answer that, altogether. I am not thoroughly familiar with the quantities involved.

Q. Well, when you—

A. I do know that they have a large number of other types of valves than those.

Q. Well, don't you know that from your experience in selling them valves when you were with the Oil Well Supply Company, and buying valves now as a member of the Purchasing Department of the Company?

A. No, sir, I don't know that. I have sold the Lone Star Gas Company a good many valves, but not so many of these valves. That was my personal experience.

Q. On page 11, the page first referred to, what is the basing discount as of to-day, which you show on that page?

A. Forty-five per cent.

[fol. 1219] Q. What was the source for that discount?

A. The Walworth Company.

Q. What was the discount shown for the previous quotation date?

A. Forty-five per cent. Now, I gave you the base discount as of April 1st there, and then December 28th.

Q. Now, you got that discount, did you not, from the discount sheets furnished you by the Walworth Company?

A. That is correct.

Q. Do you have those sheets with you?

A. Yes, sir.

Q. Now, find the sheet which shows this discount, and show it to us, please, sir. (Witness examines data.)

A. That base discount has been corrected to 45½ per cent.

Q. To forty-five and what?

A. One-half per cent.

Q. To forty-five and one-half per cent?

A. That is right.

Q. It is not corrected on your sheets, is it?

A. No, sir.

Q. When did you find out about the correction? When we started the cross examination?

A. I knew about the correction before now.

Q. Before you made out this exhibit?

A. Yes, sir; I have a letter from the Walworth Company, [fol. 1220] advising of some corrections a few days after the discount sheet was issued.

Q. Well, why didn't you put it in your exhibit?

A. These exhibits were prepared rather hurriedly when we decided to enter them here. It is one-half of one per cent. That is an error that I admit.

Q. Have you any other errors you would like to admit on this same page?

A. There may be some. I will be glad to admit them, if you will find them for me.

Q. Well, will you point out the ones you know about?

A. I don't know of any.

Q. You knew about this one.

A. I think they are correct.

Q. All right; on the same page where you show the price as of January 1, 1933; the date of Mr. Biddison's appraisal, what price do you show, based on a hundred dollar list price?

A. Show a base discount of 49 per cent.

Q. I know, but what price, delivered, for the valve?

A. \$36.85.

Q. As compared—That \$36.85 delivered price of the valve compares with the price to-day of \$36.38?

A. That is correct.

Q. That is a slight decline in that valve?

A. Yes, sir. There are two or three items in this exhibit [fol. 1221] where the price as used in the appraisal and the present price show no appreciable change; there are other items that show an appreciable change upward.

Q. You don't know, do you, Mr. Richey, that this is one of the most common valves in the System?

A. No, sir, I don't know that it is, and I wouldn't say that it is not.

Q. Now, if the correct discount had been applied, what would have been the price as of to-day?

A. It would be \$36.0518, as compared to \$36.38.

Q. Now, some of these valves, you say, Mr. Richey, have gone up and some of them down. Now, I will ask you the question—

A. Did I say "down"? There is a slight—there is a fraction of a per cent there in that cost—probably of from one-half to two per cent in some, but not any appreciable amount down, as compared to the items that have gone up.

Q. Well, it is a fact, isn't it, that none of the items have gone up except the ones rarely to be seen in the Lone Star Gas Company's System?

A. No, I wouldn't say that at all. Malleable fittings have gone up, and they use a good many of them.

Q. Point out some that have gone up in an appreciable amount that is to be found in any sizable quantity in the Lone Star Gas Company's system installations.

[fol. 1222] A. On page 1, from the appraisal date until the present date, or rather, the appraisal date price, based on \$100.00, was \$57.04, compared to \$60.53; on page 3, covering Standard Wedge Disc Gate Valves, which are common valves, it is \$52.12, as compared to \$53.58; on page—

Q. Now, you have available to you—

A. Just a minute. The Standard Double Disc Valves, on page 5, which is another valve commonly used, the price on the appraisal date, based on \$100.00, was \$65.55, as compared to \$66.08.

Mr. Griffith: Upon what page, Mr. Richey?

The Witness: Page 5.

Q. Now, take, Mr. Richey, the appraisal submitted by Mr. Biddison, and point out some place in that appraisal where you can find one of the valves listed on page 1.

A. Take Mr. Biddison's appraisal?

Q. Yes, sir.

A. I am not qualified to do that. I have had no connection with the preparation of Mr. Biddison's appraisal.

Q. I understand that, but you can read, can't you?

A. Yes, I can read; certainly.

Q. I would like to see just what a hunt you would have to make for one of those valves.

A. What a hunch?

Q. Yes, a hunt—what a search you would have, to find [fol. 1223] one of those valves.

A. Oh.

Q. Is there any way we could get together on this, Mr. Richey? Can you confer with Mr. Biddison and find out what are the common valves in the system, so we can call attention to the ones that are really important, and weed out the ones that are not?

A. Yes, I can confer with him.

Q. Well, will you do that?

A. Yes, sir.

Q. Do it right now?

A. Yes, sir.

Q. Well, can you report back at some later time on that, then?

[fol. 1224] A. Yes.

Q. Now, on the last valve that you mentioned on page 5, what is the percentage increase in the price as between the present date and the price prevailing January 1st, 1933, on the delivered price?

A. Oh, approximately eight-tenths of one per cent. It is less than one per cent.

[fol. 1225] Q. On direct examination yesterday, Mr. Richey, I believe you said on casing that certain companies got a certain discount—of ten, ten and two per cent, I believe you said?

A. That's right.

Q. Instead of the ten, five and two used by Mr. Biddison?

A. That is correct.

Q. You mentioned the Standard Oil Company, I believe you said, of Indiana?

A. I didn't mention the Standard of Indiana. I believe they are on the list, however.

Q. Who are the ones you mentioned?

A. The Standard of New York, I believe, and its subsidiaries. There were some fifteen or more companies on the list. I don't remember who they were, but they were large operators in the oil fields, and not the gas fields.

Q. When was this list effective that you were talking about—as of what date?

A. I don't remember just when that particular list was effective. There had been preferential lists of various kinds in effect, to my personal knowledge, since 1924. Some of them were revised and cancelled and they came out with others. I don't remember just when it was effective. It was effective for quite some time, however.

Q. The one you are talking about is the one effective August 15, 1933, being List No. 24, wasn't it?

[fol. 1226] A. We are speaking of different things. You are speaking of pipe price lists, and I am speaking of a list of preferential customers.

Q. Are you familiar with the concerns on that list as of January 1, 1933?

A. To some extent I am, yes.

Q. Wasn't the United Gas Public Service Company on the list?

A. I believe they were not.

Q. Can you say?

A. I would not like to state definitely that they were not, but there were no gas utilities on that list for oil country goods that I can remember. I can get one of the lists, if necessary.

Q. How long would that take?

A. Well, I don't know.

Q. A day or so?

A. Yes, easily.

Q. Well, could we be furnished with that list?

A. Well, I could get one for myself, and let you look at it.

Q. Will you do that?

A. I will try to do so.

Q. Now, if a large purchase of casing, such as would be necessary if the Lone Star Gas Company's properties were all being reproduced as they are now, at a wholesale reproduction, it would necessitate the purchase of a very large amount of casing, wouldn't it?

A. Not within a twelve months period, no sir, as I understand the reproduction of the property. It would be [fol. 1227] over some three or four years. The number of wells they have would not constitute what the tube people consider large quantities of casing at the time those lists were put into effect, by any means. Some of those people drilled as many wells in twelve months as the Lone Star Gas Company has ever drilled.

Q. You are speaking of oil wells now?

A. Yes, but they are all wells in the ground, and they all take casing.

Q. At the present rate, the Lone Star Gas Company is only drilling about two or three wells per year, is it not?

A. I don't know.

Q. Under a reproduction of the whole properties, though, even though the reproduction or construction were spread over a three or four years period, it would be about one hundred wells or more per year?

A. I wouldn't think it would be that many.

Q. How many would it be?

A. I don't remember for sure how many wells the Lone Star Gas Company has, but I think they have less than three hundred wells, and over a period of four years, they might drill 70 wells per year, at that.

Q. Well, that would bring them up in the class of some of the companies that appear on your list?

A. No sir, not at the time those preferential prices were extended. It certainly would not.

Q. Mr. Richey, what is a reducing valve?

A. Reducing valve?

[fol. 1228] Q. Yes, sir.

A. Well, that would be a valve that would reduce from one size to another. If you are speaking of reducing size of line—If you are speaking of reducing pressure and getting into regulator equipment, that would be something else.

Q. Well, you understand the term, reducing valve, don't you?

A. So far as the matter of pricing is concerned, yes.

Q. Were you here when Mr. Biddison was testifying?

A. No, sir.

Q. Mr. Biddison mentioned a reducing valve. Do you know what he was talking about?

A. I have a good idea as to what he was talking about. I won't say that I do definitely, but I know about regulators and reducing valves to some extent although I am not a mechanical engineer and I am not thoroughly familiar with their construction.

Q. Well now, Mr. Biddison used a price which he said represented a price on a reducing valve. Will you take your catalogs and point us out some price that applies to a reducing valve—or better yet, show us a picture of a reducing valve?

A. That is one. There are several of them there—there are several pages of them. (Witness hands catalog to Mr. Fitzhugh.)

Q. Mr. Richey, would you mind stepping over here? I don't think the jury can see these pictures that far off, and I want them to understand what these valves are. Now will you explain on these pictures, where you show reducing valves, the main features of the valve, and what [fol. 1229] the reducing part of these reducing valves is?

A. I would prefer that Mr. Biddison do that, if it is necessary. I am somewhat familiar with it—there is a

diaphragm here that has a pressure that actuates on one side, and the pressure that would actuate on the other side, in case the pressure would go up or down, which would offset that. We might read the manufacturer's description of it—I am not a mechanical engineer.

Q. Just looking at this side of the valve, it is pretty well filled up with mechanical apparatus?

A. Yes, to some extent.

Q. And the reducing part of this means that the gas goes in at one pressure and comes out at another. Is that it?

A. That is correct.

Q. All right sir, but there is no doubt but what the center of the body of that valve is filled up with working parts.

A. Well no, not altogether. It has some parts in it, yes.

Q. You could not put a string of tools in that valve, could you, and drill through it?

A. A string of tools in that valve?

Q. Yes, in the sense you could in a drilling valve?

A. I wouldn't think so. I would hate to try to.

Q. Yes, so would I.

The Court: Let's not get into an argument with the witness.

Q. Now then, what is the price you show in your book for gate valves, screw, Crane, 10 inch by 8¼ inch, drill- [fol. 1230] ing, 1600 pounds test, double disc, lead ends, non-rising stem, and this valve is designed with a ten inch body and 8¼ inch threads. That is, it has a ten inch body to be attached to eight and a quarter inch casing.

A. I can state here that that particular valve, as no doubt determined heretofore in this case, was not listed in these price books.

Q. You mean the price that Mr. Biddison used in his appraisal was the wrong price?

A. Not necessarily. A substitution could have been made.

Q. You mean a substitution in the inventory or a substitution in your price book?

A. A substitution of a price on some other type of valve, similar to the one in the inventory.

Q. Well now, what is the correct price to apply for a valve of this designation?

A. Well, I don't know what substitution has been made. A reasonable substitution would be a price on—

Q. I am not talking about substitutions now, Mr. Richey. I am simply asking you what is the correct price to apply to this particular valve—and for any make of valve, whether it is Crane, Walworth, Westcott or what. And incidentally, all makes of these valves would be priced the same, wouldn't they?

A. Not necessarily.

Q. Well, I am just asking you for the price on this particular valve, Mr. Richey, without any substitutions made by anybody. And to get that, you are going to have to go [fol. 1231] somewhere out of your price book, aren't you?

A. That is what I had started to do.

Q. Yes. All right sir.

A. The method of pricing that valve would be a sixteen hundred pound test, iron body gate valve, so far as Crane is concerned, and it would be a ten inch valve, plus five per cent for casing threads. That is the method for pricing them.

Q. Well, have you in your price book there got any drilling valves listed at all.

A. Yes.

Q. Have you got any drilling valves that can be applied to eight and a quarter inch casing?

A. Yes.

Q. What is that?

A. Here is a valve—a Darling valve, for instance, at a price of \$208.84.

Q. And what is the list price on that valve?

A. The list price, F. O. B. the factory, is \$189.75 net, subject to two per cent cash discount.

Q. Now on the price sheet that you are reading from, what is the designation across the top of the page?

A. That is drilling gate valves, Darling, non-rising stem, screw end, iron body brass mounting.

Q. Now the price you just gave us was for application to eight and a quarter inch casing?

A. Yes.

[fol. 1232] Q. What is the size body on that valve?

A. Ten inch.

Q. What is the price delivered in Texas?

A. I just gave that—\$208.84. There are a number of other substitutions, however, that might be made.

Q. Is that 1600 pounds pressure?

A. 1600 pound test.

Q. Which is ordinarily the more expensive valve—the Crane, or the Darling—or is there any difference?—is that a Crane valve you are looking up now?

A. Yes.

Q. A drilling valve?

A. No, sir; I merely wanted to get a little comparison here in order to properly answer your question.

Q. I want to know, now, Mr. Richey—maybe you didn't understand me. I want to know if a Darling drilling valve is more expensive than a Crane valve, or if there is any difference.

A. There is some difference, but not a great difference in those prices.

Q. Well, the per cent of difference there wouldn't hardly be over one or two per cent, would it?

A. I don't know, but I would not be a great amount.

Q. Now then, if \$208.84 is the correct price, and there is not very much difference between the Darling and the Crane valves, how in the world could Mr. Biddison, with any justification whatever, have used the figure of \$717.36 for the [fol. 1233] price of the valve he has put in his inventory, for the designation he first gave.

A. There are a very large number of valves involved in the Lone Star Gas Company's system, and in these price books and in the appraisal, and as we have mentioned before during this case, it is possible to make a misapplication, which is very possibly what has been done here.

Q. And that is what happened here in this case?

A. I would say yes.

Q. And this valve is over-stated in value by about \$507.00, is it not?

[fol. 1234] Q. Now, Mr. Richey, a moment ago I asked you to show the jury a reducing type valve. Now, it is clear that that could not possibly be a drilling valve, isn't it?

A. That is correct.

Q. And any price that would apply a price on that reducing valve to a valve classified as a drilling valve would be an error, wouldn't it?

A. Yes, sir.

Q. Is there any such thing as a reducing type drilling valve, and if there is I wish you would look through your catalogs and find a picture of one?

A. No, sir; there is not.

Q. If Mr. Biddison said in his testimony that the difference in price from the one he applied—I believe he said this: That there might have been a substitution made, and that perhaps the wrong price was applied; but that if the wrong price were applied, instead of pricing the valve as a drilling valve it had been priced as a reducing type of drilling valve; could that have been correct?

A. He was referring to two sizes, 10 x 8 $\frac{1}{4}$ and 8 $\frac{1}{4}$ x 6 $\frac{5}{8}$. Of course, that infers a reduction there by two sizes; but so far as what we know as a reducing type of fitting or valve, it is not a reducer.

[fol. 1235] There appears in the inventory, Mr. Richey, a large number of 8 $\frac{1}{4}$ inch Westcott or Crane Drilling Valves, and these valves are priced from \$500 to \$700. Now, can you give us the correct price that should be applied on any of those valves?

A. A 10 x 8 $\frac{1}{4}$ inch Westcott non-rising stem, solid wedge drilling gate valve, 1000 pound test, should be priced at \$445.90.

Q. Now, that takes an 8 $\frac{1}{4}$ inch casing, does it not?

A. Yes, sir.

Q. And has a 10-inch body?

A. Ten-inch body, that is right.

Q. Do you have the valve catalog that applies to this valve with you?

A. No, sir; I merely have the quotations.

Q. Do you have that quotation?

A. Just a minute. I have a catalog. I will amend that statement.

Q. Now, the catalog description will show with certainty, will it not, the size casing that this valve can be applied to?

A. The catalog does not show the old types of valves, which were 10 x 8 $\frac{1}{4}$ and 8 $\frac{1}{4}$ x 6 $\frac{5}{8}$.

Q. Do you have a description of the valve for which you just gave us this \$445.90 price?

Mr. Griffith: I think he read the description into the [fol. 1236] record, Mr. Fitzhugh.

Q. I want the catalog.

A. No, sir; I have a discount sheet here.

Q. What is that sheet?

A. Continental Supply Company discount sheet.

Q. That valve is shown to have a \$445.00 list price?

A. That is correct.

Q. As shown by the catalog, or the discount sheet rather, that valve takes a 10 $\frac{3}{4}$ inch outside diameter casing?

A. That is correct. The catalog does not show the old reducing type of valve. The appraisal lists a 10-inch body, and therefore that would be a proper price to apply in that case.

Q. Do you have a price to be applied to 8 $\frac{1}{4}$ inch casing on that discount sheet?

A. To 8 $\frac{1}{4}$ inch casing?

Q. A valve that takes an 8 $\frac{1}{4}$ inch casing?

A. That valve does not have a 10-inch body. The valve you refer to in the appraisal has a 10-inch body; and therefore, a valve with a 10-inch body would be the proper valve price to apply.

Q. All these valves weigh about 500 pounds, don't they—they are awfully heavy?

A. They weigh more than 500 pounds, I believe. Full freight is allowed and I don't have the weight set up in my price-book.

Q. What is the page of the discount sheet that you are referring to?

[fol. 1237] A. Page 104.

Q. What date is that discount sheet?

A. It is a discount sheet dated December 1, 1932.

Mr. Griffith: Giving the prices which are applicable as of January 1, 1933?

A. Yes, sir.

Q. All right. Now, get this matter straight, Mr. Fitzhugh, the valve that you have priced at \$455.00 list price minus two per cent cash discount, is shown to have a 10-inch nominal size, capable of taking 10 $\frac{3}{4}$ inch outside diameter casing, and that is listed on page 1299 of the Continental Supply Company catalogue, isn't it?

A. It is.

Q. And it is your testimony further that that valve has a 10-inch body?

A. Yes, sir.

Q. And further that that valve can be made to take a 8 $\frac{1}{4}$ inch casing?

A. It can be, yes, sir.

Q. And you have, therefore, used this price because this valve can be made to take an $8\frac{1}{4}$ inch casing?

A. It could be manufactured to take an $8\frac{1}{4}$ inch casing, and having a 10-inch body, that would be a proper price to apply to that. They are no longer manufactured and are obsolete. It is not manufactured that way at the present time.

[fol. 1238] Q. When did they quit manufacturing these valves that have a 10-inch body and $8\frac{1}{4}$ inch casing connection?

A. I don't recall exactly. I would say around 1925, or before that.

Q. Now, Panhandle Field wells, a great number of them contain these valves as part of their equipment, and they have been brought in since 1925, haven't they?

A. That is correct. There are still some of those valves available today in supply company warehouses.

Q. Well, are they quoted?

A. They have prices on them; yes.

Q. Well, where are the quotations that apply to those valves then—those identical to the ones described in the inventory?

A. The valves I particularly refer to, because I am familiar with them, were what was known as Oil Well Supply Company valves, of which there are none in this inventory; however, they were manufactured at about the same time as the valves in the inventory were manufactured. Some of them are still available.

Q. Turn to the first page in your Exhibit 33. Where did you get the data that appears on page 1 of that exhibit, and which states there is a ten per cent discount on quantity lots of pipe up to a certain tonnage—or above a certain tonnage?

A. As I testified yesterday, it was published in the publication "Iron Age"; and I also obtained it from the National Tube Company.

Q. From the National Tube Company—did you obtain a letter from them?

A. Yes, sir.

Q. Do you have that letter?

A. Yes, sir.

Q. Let me see it, please, sir.

A. Yes, sir.

Q. Is your letter to them attached?

A. Yes, sir.

Mr. Griffith: You mean a copy of the letter, Mr. Fitzhugh?

Mr. Fitzhugh: Yes, sir.

Mr. Griffith: Rather, a copy of the letter written by the Lone Star Gas Company to the National Tube Company?

A. That is correct.

Q. What are the discounts available to the jobber, as shown by this letter?

A. Five per cent, I believe.

Q. Is that the extreme discount—the most the jobber could get?

A. The jobber gets five per cent beyond the discount shown.

Q. If all of the pipe needed for reconstruction work were furnished through the jobber, the jobber would get five per cent [fol. 1240] cent below the quoted price, would he not?

A. I don't remember just how it reads. I am not interested in what the jobber gets. It states exactly what they get there.

Q. The statement appearing in this sheet is: "Prices to consumers for carloads are card discounts less five per cent, and when sold through a jobber we may allow five per cent as extreme commission on the basing point value of material."

A. I believe that is correct.

Q. Later on in the same sheet the following appears: "The prices for a large lot of lap weld line pipe are card discounts less five per cent and ten per cent, and when sold through a jobber we may allow three per cent as extreme commission on the basing point value of material."

A. I believe that is correct.

Q. What is a jobber?

A. A jobber is an organization or concern in the business of stocking merchandise for resale to certain classes of trade recognized as being legitimately in that kind of business. In a good many cases they extend credit facilities to their customers, and other facilities, and they, therefore, receive certain concessions in price, and rightfully so, for the representation they give the manufacturers of the various commodities they sell.

Q. Now, I believe your experience with the Purchasing [fol. 1241] Department of the Lone Star Gas Company extended over about eleven months?

A. Fifteen months.

Q. You were there then during most of 1933?

A. That is correct.

Q. Are you familiar with the prices that your Department actually secured?

A. I am.

Q. During the year 1933?

A. That is right, and for a number of years prior thereto I checked the records of the Purchasing Department, and compared the prices they then actually paid with any prices that might have been compiled in these pricebooks, in order to make any corrections I might have been able to, if I had a higher price.

Q. So you know just about as much about purchases as you do quoted prices?

A. No; I would not say so. I know there were no prices paid by the Company for material lower than are incorporated in these price-books, unless it might have been some obsolete material, or over-stock, or something of that kind.

Q. What are you talking about when you say "obsolete material"?

A. I mean that various concerns stocking commodities, whether it be a supply company, or a clothing store, they may have some stock that becomes more or less obsolete, and they will offer a better price on it to move it, even though [fol. 1242] they lose money on it; and there are times when a concern can make use of those items.

Q. Did you make during 1933 any purchases of pipe of more than one carload,—that is, for the same size of pipe?

A. I believe not; I am not positive.

Q. On purchases made during 1933, were the purchases the same as shown in your exhibit?

A. Not altogether.

Q. Were they for purchases made in carload lots?

A. Yes, sir.

Q. Now, in what particular items of pipe did your prices shown in this exhibit differ from the actual purchase price?

A. These prices are effective under the Steel Code, and they became effective, I believe, August 29, 1933. Prior to that time there were other prices.

Q. Where you did buy in carload lots you paid actually in every instance the price shown in your exhibit?

A. I am positive of that, after the Code prices became effective. There were some variations, I believe, in prices before the Code became effective.

Q. How substantial were the variations before the Code prices became effective?

A. Very small.

Q. Now, the Code went into effect when?

A. The prices became effective, I believe, August 29, 1933.

Q. But previous to that time you were paying the prices shown here, is that right?

A. Not in every case, no, sir.

[fol. 1243] Q. Now, why didn't you show that price?

A. The price we paid?

Q. Yes, sir.

A. The purchases were very small, only a very few carloads of pipe. There would be no way of determining the value of pipe involved in the Lone Star system by taking some one purchase of, say, ten cents a foot and applying it to twenty million dollars' worth of pipe.

Q. Well, if I understand you, Mr. Richey, you think you are not bound at all by what prices you actually paid for pipe in making out prices to be used in a reproduction cost new appraisal?

A. If it happens to be what is called distress material, a carload or two, that somebody wants to remove from their yards, and we can make use of it and can buy it at a low price, certainly we would not be bound by that.

Q. Mr. Richey, isn't it a fact that your company in appearing in these cases in the last few years has never said they bought anything in the last few years but distress pipe?

A. No, sir; it has not.

Q. Are you buying at the present time anything except distress pipe?

A. No, sir. The Code does not permit it.

Q. The Code is the only thing that keeps you from it?

A. Possibly so; yes, sir.

Q. Prior to the time the Code went into effect you were buying all sorts of pipe?

A. Not all sorts—probably a few carloads.

[fol. 1244] Q. Well, as much as you could use?

A. No, sir. Distress pipe would not be made to apply to any major project. It is a matter of pressure and well thickness and material that is required.

Q. In 1933 what was the biggest purchase of pipe the company made?

A. Forty-five and forty-five—I beg your pardon. Sixty-three hundred feet of 24 inch O.D., 71.25 pound, plain and seamless line pipe.

Q. How much did you say per foot for that pipe?

A. \$2.0328 per foot, delivered.

Q. Is that double random length pipe?

A. I am not sure of that. I don't have that information.

Q. Is it seamless pipe?

A. Yes, sir.

Q. Seamless pipe costs more than lapweld pipe, does it not?

A. Yes, sir.

Q. And it costs more than electric welded pipe?

A. That is correct.

Q. There were eleven carloads of this pipe, were there not?

A. I don't know how many carloads there were.

Q. Well, can't you tell, Mr. Richey, from the size of the pipe and the amount of the pipe it takes to load a carload that there were about eleven carloads?

A. I could ascertain the amount in tonnage. I don't know how it was shipped. There was quite a lot of pipe.

[fol. 1245] Q. When was that pipe purchased?

A. It was purchased, I believe, during the month of March, 1933. The invoice was dated March 30th.

Q. In other words, this pipe was purchased just a few months after the date of Mr. Biddison's appraisal?

A. Yes, sir.

Q. Being in March after he made his appraisal as of January first. In your Exhibit 34, where you show pipe prices, where do you show your seamless pipe?—is that on page 2?

A. Yes, sir.

Q. The largest size that you show for seamless pipe is 18 inch 52.223 pounds, or 53.223 pounds. At what cost could that pipe be purchased as of January 1, 1933?

A. I don't have the price on it as of that date. I did not secure that quotation, and therefore I don't know.

Q. Well, why didn't you have the quotation for that date?

A. It was not requested at that time. It apparently did not appear on the inventory for some reason or other.

Q. Well, you do have a quotation for January 2nd, 1934?

A. I do.

Q. At what price?

A. \$2.2461.

Q. Now, that is for 18 inch 53 pound pipe, isn't it?

A. Yes, sir.

Q. But this purchase that you made was 24 inch 71 pound?

A. Yes, sir—71.25 pounds.

Q. You don't show a quotation for that size pipe, do you?

A. No, sir.

fol. 1246] Q. But as an ordinary thing the larger the diameter and the heavier the weight of pipe the more the cost; isn't that right?

A. Yes, sir, the heavier the weight.

Q. As a matter of fact the price of pipe goes almost in direct proportion to the weight, does it not?

A. Almost, yes, sir.

Q. Can you tell us, Mr. Richey, what was the price of the 18 inch 53 pound available back in March, 1933?

A. No, sir; I haven't that.

Q. Was it substantially the same as the quoted price you have shown on January 2nd, 1934?

A. Substantially the same, I would say.

Q. Nevertheless, the price shown for the lighter weight pipe of 18 inch 53 pounds pressure—I mean 53 pounds—is substantially greater than the price actually paid on this purchase of 24 inch 71 pound pipe?

A. Yes, sir.

Q. You do show for seamless 16 inch 47 pound a quoted price as of July 1, 1933, of \$2.1013, do you not?

A. That is correct.

Q. The same price quotation that would prevail in March as still in effect on July first, 1933; isn't that true?

A. There were some changes in price during the month of March. I don't know just what they were.

fol. 1247] Q. Well, there wasn't any change as between the date of the purchase of the pipe we are talking about now and July 1st, 1933, was there?

A. I don't believe there was.

Q. Nevertheless, you show a greater price on 16-inch 47 pound pipe than was actually paid on this 24-inch 71 pound pipe.

A. Certainly; it is evident. I admit that.

Q. All right, sir. Now, that was the only large purchase made during 1933, I believe you say?

A. No, sir, not the only large purchase; it is not so very large. I have 1500 feet of 16-inch O.D. 47.215 pound plain end, electric weld at \$2.1476.

Q. How many carloads is that?

A. I don't know. That was a higher price than the seamless.

Q. Was it as much as a carload?

A. Yes, it is.

Q. How many carloads is it, then, approximately?

A. It would depend on the tonnage in the car. I could give you the amount of tons.

Q. Well, how many tons, then?

A. It would be 1500 feet times 47.215 pounds.

Q. Well, that would simply be one carload, of sixty to seventy thousand pounds, would it not?

A. Yes, but it was at a higher price than the seamless [fol. 1248] pipe to which you referred, and this is only electric welded, and one carload, as you mentioned.

Q. Well, just taking all your purchases, Mr. Richey, if you had actually tried to make out your pipe prices in any conformity at all to the prices actually being paid by your Company during 1933, you would have gotten much lower pipe prices throughout, would you not?

A. No, sir, we would not have.

Q. Well, you didn't make any effort to make any application of those prices, did you?

A. We bought a very small amount of pipe, and you couldn't make an effort to apply it with any reasonableness; there would be no way to apply it that would have any reasonableness to it.

Q. You didn't make any effort, did you, Mr. Richey, to find out the prices that other companies were actually paying on sizable purchases of pipe?

A. No, sir, there would be no way to determine that. That is private information of the other companies.

Q. You mean you couldn't get that information?

A. That other companies are paying?

Q. Yes, sir.

A. How could you?

Q. Why, don't all you gas companies get together on all such things as that? Your Company buys with Columbia [fol. 1249] Gas and Electric, don't they, and Northern Natural Gas Company, and all these other big gas systems?

A. Those are subsidiaries—those are subsidiaries.

Q. Yes, but you all buy together, don't you?

A. Sir?

Q. And swap information? Don't you swap information?

A. Those are subsidiary companies.

Q. Don't you swap information with the Cities Service Company?

A. No, sir.

Q. Don't you swap information with United Gas Public Service Company?

A. With reference to the prices being paid?

Q. Yes, sir.

A. No, sir, I never heard tell of any such thing myself.

Q. Well, there is no doubt that Mr. Simpson, who makes all your pipe purchases, buys for the whole outfit, is there?

A. He buys for those companies you mentioned, but that's not a whole bunch of companies.

Q. Yes, sir, your Company and the Columbia Gas and Electric and the Northern Natural Gas Company.

A. That's not a whole bunch of gas companies. The Cities Service is another gas company, possibly.

[fols. 1250-1251] Redirect examination.

Questions by Mr. Griffith:

[fol. 1252] Q. Now, you have been interrogated concerning the purchase of some 24-inch seamless pipe in an amount of approximately 6,000 feet during the month of March, 1933. That pipe being purchased in March, 1933, is not included in the inventory and appraisal known as Defendant's Exhibit 28 in this case?

A. It is not.

Q. Do you know anything about the purchase of that pipe—was it a purchase made at the market price or was it a distress sale?

A. It was a distress sale.

Q. Did it represent an odd lot of pipe which was left in the yards of the National Tube Company?

A. It did.

* * * * *

[fol. 1253] Q. The order of the Commission appears to have been entered on September 13, 1933. Now, what has been the trend of steel pipe prices, as reflected by this exhibit, since that time?

A. They have been definitely upward since that date.

Q. Now, Mr. Fitzhugh, in his examination of you, made no reference to prices prevailing as of a date certain, other [fol. 1254] than as shown of date May 1st, 1934, and of June 11th, 1934, in this exhibit?

A. That is correct.

Q. Now, what is the essential difference between the May 1st, 1934, prices and the June 11th, 1934, prices?

A. The difference between a one-half of one per cent cash discount for prompt invoice payment and a two per cent cash discount.

Q. In other words, effective as of June 11th, 1934, the discount for cash became two per cent, instead of the one-half of one per cent which had therefore prevailed at May 1st?

A. That is right.

Q. And with the exception of the change in the cash discount, Mr. Ridhey, is it true that the prices were generally higher on all sizes of pipe?

A. Yes, sir, they were higher.

Recross-examination.

Questions by Mr. Fitzhugh:

Q. In the instance just referred to a minute ago, where the discount prevailing as of the date of Mr. Biddison's appraisal was 49 per cent, whereas the present discount is 45½, you did not take into consideration freight rates, did [fol. 1255] you, as prevailing on that date?

* * * * *

[fol. 1256] Q. Now, Mr. Richey, just because there happened to be a great variety of valves in almost innumerable

combination, is no excuse for anybody to misprice it, is it?

A. I don't believe it would hardly be humanly possible for a number of men to get together and work up the price-books required for this appraisal and apply the prices, where the human element enters into it, without making a mistake or a number of mistakes. People make mistakes.

Q. Well, would you say, Mr. Richey, that just because there are a lot of variety of valves, which there undoubtedly are, and everybody admits, that that is an excuse for your applying a \$700.00 price to a valve when it is only worth \$200.00?

A. It is not a matter of excuse. If I make a mistake I admit it frankly.

Q. All right, sir.

A. There can be mistakes made, and the larger the number of people and the larger the number of articles to be handled, there is more chance for mistake.

Q. Now, some of these values have gone up and some have gone down. You are not able to say, are you, Mr. Richey, that the overall cost or price of all the valves would be different as of the present time than would it have been if the valves had been properly priced as of January 1st, 1933?

[fol. 1257] A. Why, I think I am in position to.

Q. Why, you don't know the number of each kind of valves in the system, do you?

A. I don't know the exact number, no, sir.

Q. Some of the valves that have gone down appreciable are in great quantity in the system, aren't they—isn't that true?

A. I don't know of any valves that have gone down appreciably since the date of the appraisal.

Q. Why, as a matter of fact, you don't know enough to say, do you?

A. Why, I certainly do.

Q. I am talking about the valves that are common valves in the System.

A. Common valves, regardless of the kind they may be, have not gone down appreciably since the date of the appraisal.

Q. Can you state the dollar difference, had the valves been properly priced as of January 1st, 1933,—what that difference would be if the valves were properly priced as of this date? You don't know the number in the System, do you?

A. No, sir, I don't.

Q. All right.

A. But I know that the valve prices are up, regardless of the kind and the number in the System, since the date of [fol. 1258] the appraisal.

Q. And so far as your prices of pipe are concerned—so far as those prices are concerned it is still your testimony, is it not, that you have not taken into consideration in your pipe prices any actual purchases made?

A. There were small quantities of pipe purchased. Any low prices were distress material that they were very glad to get rid of, and the Company could use by saving a little money.

Q. All right, sir.

A. But you couldn't purchase \$20,000,000.00 worth of pipe and get the advantage of any little small amount of distress material.

Q. Just the same, you didn't take into consideration in your prices any of the prices actually being paid by you?

A. You couldn't take it into consideration.

* * * * *

[fol. 1259] ED C. CONNOR, a witness for Defendant, resumed his testimony and testified as follows:

Direct examination.

Questions by Mr. Griffith:

Q. Referring to Volume 7 of Exhibit 28, Mr. Connor, it would appear that you have estimated certain costs by sections, in connection with your development of the preliminary and organization costs?

A. That is correct.

Q. Among other costs are included the preliminary geological investigation, and preliminary engineering investigation, and detailed geological studies and investigation. What is the factual basis for your estimate of these costs, if any?

A. A careful study of the territory which would have to be investigated geologically in order to determine whether or not in the first place it would be feasible to construct the Lone Star Gas Company's system, and from a careful study of the personnel that would be required to make such a study, both with reference to the preliminary geological

investigation, the preliminary engineering investigation and the detailed geological work.

Q. Now Mr. Connor, in arriving at an estimate of the costs of the preliminary geological investigation and the preliminary engineering investigation, I will ask you [fol. 1260] whether you have seen similar costs actually incurred in your own experience?

A. I most certainly have.

Q. In what connection?

A. In connection with the preliminary and organization period of the Houston Gulf Gas Company, and other natural gas pipe line companies which have been recently constructed.

Q. In other words, Mr. Connor, in your development of these preliminary and organization expenses and your estimates of cost, have you endeavored to parallel, in so far as you can, the actual experience of other companies operating in a substantially similar manner?

A. That is correct; and I have also made my determination upon the basis of my own experience in similar work.

Q. In connection with your identification with the Houston Gulf Gas Company, did you see costs similar in all substantial respects incurred for preliminary geological investigation and preliminary engineering investigation on the project, which costs are identical with the costs used in your Exhibit 28, Volume 7?

A. I did see those expenditures incurred, of course not in amounts which would be equal in the total sum to the amounts which would be required to do similar work in connection with the preliminary steps which would be required to reproduce the Lone Star Gas Company's system; the reason for that being that the Houston Gulf Gas Company was a much simpler engineering and geological problem, or at least it presented much simpler problems than would be encountered in the reproduction of the system of the Lone [fol. 1261] Star Gas Company, for the reason that the Houston Gulf Gas Company's system began at a single gas field at the time of its initiation and consisted of a single trunk line from the Refugio field into the City of Houston, while in the case of Lone Star Gas Company, should it be reproduced it would require intensive geological investigations of practically the entire state of Texas and a substantial part of the State of Oklahoma.

Q. Just relate to the jury in a general way your method

of approach in arriving at a determination of these costs and the respective steps which would be taken.

A. Do you refer now specifically to the geological investigation and the engineering investigation?

Q. And successively the other steps in the incurrence of preliminary and organization costs.

A. The first thing which would take place in the reproduction of the property and business of the Lone Star Gas Company would be the development of the idea of building such a property in the minds of men who understood the natural gas business and were capable of developing such a property. These men would of course require specific information with reference to several very important factors, the first of which would be: Is there a gas supply available to the markets which they would intend to reach, which would justify the expenditure of more than Fifty Million Dollars in pipe line and compressor facilities. The second step would be the determination on their part of whether, if such [fol. 1262] a pipe line would be constructed, would the market that it might reach support the investment after it had been made. These men would go about securing the information necessary to answer those two all-important questions, and in order to do that, they would put into the field an organization of trained geologists who would develop all of the necessary information relative to a preliminary determination of whether or not there would be a sufficient gas supply available, in order to justify the investment.

If that investigation should prove to their satisfaction that there was a sufficient gas supply, the next step would be a detailed geological investigation which would be much more complete and intensive than the preliminary geological investigation, because on the basis of the detailed geological investigation they would begin to acquire acreage, gas rights, gas purchase contracts, and make provision for the drilling of natural gas wells. An investigation of that sort would require a more complete organization, and would supplement the work done in connection with the preliminary geological information.

They would also put into the field a group of trained engineers, thoroughly familiar with the natural gas business, who would make a detailed analysis of all of the cities and towns which might be served by this natural gas pipe line company. This group of engineers would analyze the probable number of consumers which could be secured in the

more likely towns which would be reached by the pipe line system. They would make an analysis of the probable sales which could be secured for industrial purposes. They would [fol. 1263] also make a preliminary study of the cost of the system, a tentative layout of the system and an estimate of what it would cost to operate the system after it had been constructed.

Q. By a tentative layout of the system, do you mean a tentative design or a preliminary design of the general outline of the system?

A. That is correct. They would not make anything like a detailed engineering layout of the system, but they would go into the matter sufficiently to determine in a general way what the over-all costs of the projects would be.

With this information in hand, the men who were originating and developing a project of this sort, would then be in position to secure the necessary funds required to construct the property. Without that information no money could be secured to build any natural gas pipe line system.

Q. Now, having ascertained, in a preliminary way, the geological data that would be requisite and the engineering data that would be necessary to an approach to those who would furnish funds or put up funds for investment in such a project, what would be the next step which would logically follow?

A. They would then make contact with the sources of money which might be secured, in order to construct the project.

Q. Now it is not reasonable to assume, is it Mr. Connor, that any two or three men who would initiate a project such as the reproduction of the Lone Star Gas Company's property would involve, or its original construction, would have in the aggregate some Sixty or Seventy Million Dollars, [fol. 1264] that would be required for its construction?

A. It is not reasonable to assume that situation, and from a practical standpoint, a property of this magnitude has never been built in that way.

Q. That is, it has never been built with—

A. With direct contributions from a small group, such as would be responsible for the initiation of a project such as this is.

Q. What is the usual, if not the universal, method of financing such a project?

A. The universal method by which a project of this sort is

financed, is through the sale of securities, secured in part by a mortgage upon the property to be constructed; in part by issues of preferred stock and in part by contributions represented by the purchase of equity shares of stock, or what is usually called common stock.

Q. Well now, what is the method that is followed, Mr. Connor, in order, in the procuring of financing for such a project?

A. When a group of responsible men have secured the information such as I have previously outlined, and which would be secured by the investigations which would be made, they would take that information to people who are in the business of furnishing money for such enterprises.

Q. And who are those people?

A. They are usually termed investment bankers or security underwriters.

Q. Mr. Connor, having secured this preliminary data and [fol. 1265] having approached the underwriters or investment bankers who would finance or underwrite the financing of the construction work, what would be the requirements of such underwriters or investment bankers?

A. They would first scrutinize very carefully the information furnished by the initiators of the project. They would then stipulate that this information, both geological and engineering, must be checked and verified by representatives of their own selection.

Q. Is that ordinarily true of anybody who lends money on a large scale for any kind or character of industrial or like project?

A. That is always true.

Q. And are there expenses necessarily incurred, and which must be paid by the borrower in connection with such financing or proposed financing?

A. That is correct. These reports which are required by the people who will furnish the money are made by men who are selected by the men who furnish the money, but in every case the fees which must be paid to these individuals or firms is paid by the initiator of the project. These investigations on behalf of the people who must furnish the money to build such a system as the Lone Star Gas Company system are in all cases engineers or geologists whose standing is such that their approval of the findings of the initiators will be such as to command the respect of the investing public.

Q. Mr. Connor, in that connection I will ask you if municipalities and states and political subdivisions are likewise required to incur and pay somewhat similar expenses in connection with the floating of bond issues?

A. That is correct. Of course a natural gas project presents peculiar and specific difficulties and necessarily requires a larger amount of effort and expenditure in connection with its preliminary development period than any other form of public utility, and that is true by reason of the fact that the natural gas business is the only public utility business which is dependent upon the results of a mining venture, and the most hazardous of all mining ventures, for its supply of the commodity that it serves the public. An electrical plant or any other plant such as manufactured gas plant or any other type of public utility can be built anywhere. It is only necessary to make an estimate of what it will cost to build it. There is no question of it being able to keep running after it is built, but that is not true of a natural gas pipe line project. It is not only a matter of doubt from the very start, as to whether or not the supply of gas will be sufficient to justify its original investment, but throughout the life of the property there will always be a question or doubt as to how long it will last once it has gone into operation, and for that reason investors in natural gas securities and the people putting their money in natural gas projects require more detailed and more definite information relative to the project before it is begun than is the case in any other public utility enterprise.

Q. Now the Lone Star Gas Company is a corporation incorporated under the laws of the State of Texas, is it not, Mr. Connor?

[fol. 1267] A. That is correct, yes.

Q. It is qualified to do business in the State of Oklahoma and does operate in the State of Oklahoma?

A. That is correct.

Q. Would it be necessary that expenses be incurred in connection with the organization of the corporation and the getting of the corporation under way, preliminary or prior to the commencement of actual construction?

A. That is correct. The corporation could not be created without certain definite out-of-pocket expenditures, and other costs which have not been enumerated would be incurred in connection with the incorporation of the property

or the business, once it had been determined that the money could be secured.

In order to make a venture of this kind feasible, a certain amount of visible gas supply would necessarily have to be available. No underwriting syndicate would put a dime into a natural gas project without the assurance of a natural gas supply at the very beginning of the project. That means that a large number of leases would have to be secured; that a number of gas purchase contracts would have to be secured; that a number of wells would have to be drilled and held in readiness for the time that the plant was finally put into operation. That would mean the examination of a large number of titles, because it is important and necessary for the success of the business to know that the company has a good title to its gas leases and its gas rights and its gas purchase contracts. All of these titles [fol. 1268] would have to be examined, of course, by the attorneys employed by the men who are going to build the property, and also would have to be examined by the attorneys of the men who were going to furnish a substantial part of the money which would go into the property.

Q. Is that the invariable practice, Mr. Connor?

A. Yes, that is an invariable practice. And I had in mind, in connection with your questions as to municipal or state bonds that there is the fact that those bonds can never be sold until those bonds have been passed upon, as to the question of their validity, by some attorney outside of the municipality or political subdivision which is issuing the bonds, an attorney selected by the people who will buy the bonds. That fee has to be paid by the corporation making the issue.

Q. On page 8 of Volume 7 of Exhibit 28, Mr. Connor, you list organization and corporate expenses, and your estimate of such expenses is \$141,769.00?

A. That is correct.

Q. In round figures, without going into any detail, Mr. Connor, how did you arrive at your estimate?

A. That is shown on a recapitulation on page 50, Volume 7, Exhibit 28, and consists of the following items: The attorneys' fees for the fiscal agents, or the people who would be required probably to put up Thirty-five or Forty Million Dollars, \$30,000.00. The fees which the company itself would pay to its own attorneys for the examination of its titles, the preparation of its contracts and other legal work

[fol. 1269] in connection with the incorporation of the company, is estimated at \$15,000.00. The charter and qualification fees for the State of Texas, at \$2,500.00.

Q. And is that based upon the actual fees that would be payable under the law?

A. That is correct. And in the state of Oklahoma, \$7,500.00. The execution of the mortgage and the issuance of the securities is covered by the items previously mentioned in connection with the attorneys fees: that is, a mortgage would have to be prepared, and the preparation of that mortgage and the issuance of such securities and those costs have been covered in the estimate for attorneys fees. A federal capital stock tax of \$18,000.00.

Q. Now, is that predicated upon current rates covering the federal capital stock tax?

A. That is correct.

Q. Or the tax which is imposed by the United States Government upon the issuance of securities?

A. That is correct. Then the engraving of the stock certificates themselves, \$744.00. The listing of the securities.

Q. What do you mean by the listing of the securities?

A. Placing the securities on a stock exchange, where such securities are usually bought and sold, and that would be a necessary thing to be done. The printing of the mortgage would cost \$500.00. The recording of the mortgage in about sixty-four counties in the States of Texas and Oklahoma, would be the sum of \$3,800. The cost of engraving the bonds [fol. 1270] would be \$21,000.00. Federal taxes on bonds, \$19,000.00. And trustee's fees, \$21,000.00, which if totalled, will give you the sum of \$141,769.00.

[fol. 1271] Q. Appearing next in the general summary of the Preliminary Development and Organization Costs on page 8, Volume 7, of Defendant's Exhibit 28, appears Marketing Cost First Mortgage Bonds and Marketing Cost Preferred Stock. Will you please relate to the jury, Mr. Connor, what you mean by these costs and how they were determined?

[fol. 1272] A. I think that I previously explained that in the reproduction of the property and business of Lone Star Gas Company it would be necessary to secure a substantial proportion of the total money required by means of the marketing of what is generally termed senior securities,

or mortgage bonds and by the marketing of preferred stock. It is impossible to market securities of this nature without the incurrence of substantial costs. That is true, whether the Company itself, through its own organization, attempts to market these securities, or whether the Company engages the services of some organization especially equipped to render that service. The service rendered by a concern which specializes in the marketing of securities is usually termed brokerage. That is merely an out-of-pocket cost for services rendered. These agencies who are in position to market securities of this kind have their own organizations who are in contact with people who purchase securities of this kind. They maintain offices and an organization for the purpose of doing this very thing. They are better equipped to render this service than would be a company attempting to use its own organization for the same purpose. Now, Lone Star Gas Company, as I explained early in my testimony, at the time of its organization was a very small concern compared to what it is today, and compared to the property which would have to be reproduced today; and, and I previously explained, for [fol. 1273] that reason, the experience of the Company, in its early stages, does not afford a basis for the estimate of the costs we are now discussing. Certain costs of this character were incurred, but the amount of money involved in the transaction was comparatively small as compared to the amount of money to be required to reproduce the Lone Star Gas Company as of January 1, 1933. Now, Lone Star Gas Corporation has within very recent years actually marketed through the agencies which I have discussed,—which are firms especially equipped to market securities,—the Lone Star Gas Corporation has actually marketed fifteen million dollars worth of debenture bonds, and, I believe, \$8,500,000.00 worth of six and a half per cent preferred stock. Now, I have taken as a basis for my estimate the actual costs to Lone Star Gas Company involved—

Mr. Griffith: The Lone Star Gas Corporation.

A. To Lone Star Gas Corporation, for the marketing of these two issues. To that proportionate part of the money which I estimate would be required to reproduce Lone Star Gas Company, represented by first mortgage bonds, I have applied the costs to Lone Star Gas Corporation of marketing its debenture bonds; and to that pro-

portionate part of the money which would be required to reproduce Lone Star Gas Company represented by preferred stock, I have based my estimate upon the actual cost to Lone Star Gas Corporation of issuing its preferred stock. [fol. 1274] Q: Now, Mr. Connor, please explain the mechanics of operation involved in the matter of a company obtaining money in connection with the sale or marketing of its securities.

A. All of the steps which I have previously explained with reference to investigations and checks would have to be made. Then, the organizers of the company, and the people who would be called in to assist in the securing of the funds, would determine upon what is called a financial structure; that is, the relative amount of money which should be represented by mortgages, or a mortgage issue; the relative amount of money which would be secured through the disposition of preferred stock; and that proportion of the total cost which the owners themselves would be expected to put up in the form of subscriptions to common shares.

Q. Now, is that the usual and ordinary method which has prevailed for a number of years in the matter of financing projects of this sort?

A. That is correct. I don't know of a single company, except one, that has been financed in any other way; and that would be the way in which the least expense would be incurred in connection with this part of the program, because the cheapest money that a company can get is the money secured by a mortgage on its property. The second cheapest money that a company can get is that which is preferred with reference to the payment of dividends, and [fol. 1275] that is commonly called preferred shares or preferred stock. If the company would attempt to secure all of its money by means of the sale of what is called common shares, the cost incident to that method of financing would be much greater than the method which I have used in this estimate. The set-up which I have used in this estimate is predicated upon the assumption that fifty per cent of the money required would be secured by a first mortgage on the property and business of Lone Star Gas Company; that twenty-five per cent would be secured through the issuance of preferred stock; and that twenty-five per cent would be furnished by the originators of the project.

Q. On pages 57 and 58 of Volume 7, of Defendant's Exhibit 28, do you set forth the factual basis for your determination of the marketing costs of securities?

A. That is correct. I show that there would be necessarily issued under this set-up 380,000 units of \$100 par value, which would cost \$3.00 per unit to market.

Q. That is for the first mortgage bonds?

A. That is correct; and 190,000 units of \$100 par value, which would cost \$4.50 each to market, and that is the cost which the Lone Star Gas Corporation actually incurred in the marketing of securities similar to the ones which I have set out in this estimate.

Q. Now, the cost of marketing, which you have determined to be \$4.50 per \$100 unit, is in relation to the cost of [fol. 1276] marketing the preferred stock?

A. That is correct.

Q. And the cost of marketing the first mortgage bonds is determined to be \$3.00 per \$100 unit, or \$30.00 per \$1000 face value bond?

A: That is correct.

Q. Now, Mr. Connor, if all of these costs were not historically incurred in connection with the actual construction of the property, is it your testimony that they would necessarily be incurred in the reproduction of the property?

A. That is correct. I think in this connection that a distinction should be made between the cost which I have included in this estimate and an expense which would also be incurred, but which I have not included in the estimate. Securities of this nature, yielding the coupon rates which I have used in this estimate—

Q. What do you mean by coupon rates?

A. That is the rate of interest which the par value of the bond will yield to the purchaser. I have used an interest rate of six and a half per cent for the bonds and eight per cent for the preferred stock. Now, in marketing these securities the company would not receive \$100 for each dollar of the issue. They would be sold at what is termed a discount, necessarily so at this time and at the date of this appraisal. Now, that discount must not be confused with what I have used in connection with this [fol. 1277] estimate: The discount on a security would be the difference between the par value or face value of the certificate and the amount that the public, or the investor, or anyone interested in a natural gas property would pay

for that security when issued. That amount of money, or the discount, would depend upon several features: one, of which, would be the interest rate of the bond, or the preferred stock; the other would be the credit or the financial standing of the people operating the project. So those costs have no proper place in the estimate of the cost of reproducing the property; but the costs which would actually be paid out as an out-of-pocket expense for a service rendered is just exactly like the money that would be paid out to the laborer who was laying the pipe in the ditch; and is, therefore, a proper item to include in the reproduction of the property and business of the Lone Star Gas Company.

Q. In other words, in determining the marketing cost of bonds and preferred stock you are not attempting to capitalize discount?

A. I am not.

Q. You are merely attempting to evaluate the cost of estimating this amount of capital?

A. That is correct.

Q. And as reflected by the summary on page 8, of Volume 7, of Exhibit 23, applying the yardstick of measurement of marketing cost to the first mortgage bonds, you would determine [fol. 1278] mine that the cost of marketing those bonds to the company would be \$1,140,000.00?

A. That is correct.

Q. Covering what amount of bonds in total amount, Mr. Connor?

A. \$38,000,000.00.

Q. That is of face value bonds?

A. That is correct.

Q. And you have likewise determined and set forth on page 8, Volume 7, of Defendant's Exhibit 28, that the actual cost to the Company of marketing its preferred stock would be \$855,000.00?

A. Based on the experience of the Lone Star Gas Corporation in marketing identical securities.

Q. Now, Mr. Connor, in marketing costs of \$855,000.00 covering the preferred stock, that would cover in principal amount how much preferred stock?

A. \$19,000,000.00.

Q. So your total costs of marketing securities would be \$1,985,000.00; is that correct?

A. \$1,995,000.00.

Q. Covering the marketing costs of securities in the principal amount of fifty-six million dollars?

A. That is correct.

Q. Now, Mr. Connor, at the close of the summary, on the bottom of page 8, of Volume 7, of Defendant's Exhibit 28, appears an item of \$2,000,000, Remuneration for the Originating Group. Is that a cash item?

[fol. 1279] A. It would be a cash item, or its equivalent; but I have estimated that the originating group would be remunerated by means of commons shares.

Q. In other words, any remuneration that the originators of the enterprise obtain would be solely in the common shares, rather than cash payment?

A. That is correct. I think that is exactly the way the transaction would be handled if the property should be reproduced.

Q. Is that the way the remuneration to the originating group is ordinarily handled?

A. Yes; of course, the originating group of any project of this kind has been remunerated in cash for their out-of-pocket expenses, which represent capital and assets to the company at the date of its incorporation.

Q. Commencing on page 59 of Volume 7, of Defendant's Exhibit 28, do you give a detail of the services which would be rendered and performed by the originating group?

A. I do.

Q. Will you please summarize the services that would be performed by the originating group, and describe what you mean by the originating group?

A. By the originating group I mean those individuals who would necessarily be required to put a project like the Lone Star Gas Company into being. It is perfectly obvious [fol. 1280] that a thing of this kind could not just spring up out of the air. It would have to be planned, conceived, and worked out in the manner in which I have described before it could be a property under construction.

Q. Mr. Connor, I will ask you this question: Would that be true of any venture, such as the opening of a coal mine, or the opening of a gravel pit after it had first been determined that gravel underlay the soil, or any other enterprise on either a smaller or a larger scale?

A. That is correct. Those charges would be incurred in varying amounts depending upon the size of the project and the complexity of the project.

Q. Now, what would be the factors which would determine the remuneration that an originating group would probably receive and should properly receive?

A. First, I would say that the type of men who would be capable of initiating a project as large and as comprehensive in its activities as the Lone Star Gas Company; these men would have to be men who commanded the respect of the people who would put their money into the business, because it would be upon their judgment that the investment would be made. Another factor which would enter into the determination of the amount of remuneration that these men should receive for their services would be the amount of time they put in in working up all of the preliminary steps which would be required before this property could be constructed.

[fol. 1281] Q. Pardon me, a moment, Mr. Connor. You have stated that the men who would originate such a project would need to be men who were experienced in that particular line of business and who commanded the confidence of bankers and investors. I will ask you if it is similarly true that a bank or a trust company or a mortgage loan company would not want to lend money to a man in connection with a farm which that man was going to operate, unless he were an experienced farmer and they had confidence in him personally?

A. I think that is true in any line of business, that the character of the individual or the individuals originating the business would be scrutinized very closely by anyone who intended to advance funds for the business that these gentlemen were attempting to initiate.

Q. Now, what other factors would enter into the determination of the remuneration to be paid to the originating group?

A. The total cost and the extent of the project, the amount of money that a group of men who would originate a project of this kind should receive, should be measured, I think, in terms of the size of the project and the amount of money which would necessarily be involved in the completion of the project.

Q. Are there any other factors?

[fol. 1282] A. I think one of the most important factors is the risk which would be involved in the initiation of the

project. In order to bring a project such as Lone Star Gas Company up to the point where construction could begin would be attended by the probability of substantial financial loss on the part of those who were originating or initiating the project. They would be required to advance several millions of dollars, and in this exhibit I made an estimate of the amount of money that this group of men would be required to advance out of their own pockets. They would advance that money without a definite assurance that the project would ever be successfully consummated. That is true in the initial stages of every large natural gas project that I know anything about. Aside from all of those things, the men who originate a project of this kind would do specific things which would be of a great value to the company after its organization was perfected.

Q. And would those things be necessary to be done by somebody, if not by the originating group?

A. They would certainly have to be done. Illustrative of that point, these men, as I have made my estimate, would be responsible for the negotiating for the closing of gas sales contracts; they would have to make contact with men who might be persuaded to build distribution systems in the various towns and cities that the company would ultimately serve. They would have to arrange with the owners of properties in such cities as Dallas and Fort Worth to begin the extension of their mains to accommodate the increased demand for gas which would follow the construction of a natural gas pipe line.

Q. And all of those things have historically happened, have they, Mr. Connor?

A. In every case they have actually happened. They would also have to do all of the negotiating for the money; they would have to take a chance on whether or not the leases and gas purchase contracts and gas rights which they had secured in order to make this project feasible would be acceptable to the people who are going to put up the money to build it; they would have to be responsible for the organization of the company. Now, I have estimated that of the total money required, twenty-five per cent of it would be furnished by this originating group. That would mean that the corporation, when organized, would be relieved of any marketing costs, or any incidental costs in connection with the furnishing of twenty-five per cent of the total cost of this project. Finally, I think the

remuneration should be based upon what men usually and commonly receive for services of a similar character involving similar risks and involving the skill and ability [fol. 1284] which would be required of men who could successfully bring a business of this kind into being. I have in my experience seen just exactly what men doing this character of work actually receive for their services.

Q. And is your estimate of the remuneration for the originating group, in the amount of \$2,000,000.00, based upon the experience which you have had?

A. That is correct.

Q. Now, Mr. Connor, on page 8 of Volume 7 of Defendant's Exhibit 28 you have summarized the total of Preliminary Development and Organization Costs in the amount of \$4,474,272.00.

A. That is correct.

Q. And this includes all of the costs which you have previously testified about?

A. That is correct; and the exhibit itself sets out in detail each and every step and each and every cost which I have estimated.

Q. And do you incorporate in Volume 7 of Defendant's Exhibit 28, at pages 9 to 70, inclusive, a detailed explanation of your development and estimate of each and every one of these costs?

A. I do.

Q. I believe, Mr. Connor, that in going through these individual costs you did not explain what you meant and intended by Undistributed Production Expenses, estimated by you to be \$39,944.00.

[fol. 1285] A. It will be noted, Mr. Griffith, on page 8, that I have made, as you suggest, an inclusion of \$39,944.00 for what is termed Undistributed Production Expenses. Now, that item of cost included in this part of the appraisal could very well have been included in the *the* section which Mr. Biddison discussed and testified concerning. It represents the proportionate part of the Undistributed Drilling Costs—that is, the supervision—general supervision of drilling which would be done during the preliminary and development period. It is then deducted in a subsequent section of the report from the estimate of the general and undistributed charges to drilling costs which are included in that portion of the report testified to by Mr. Biddison.

In the initial steps of this business it would be necessary for the originators to drill a number of gas wells in order to demonstrate to their own satisfaction and to anyone else's, who might be interested in the project, that there was a sufficient gas supply; and the inclusion of that item of expense at this particular point in the exhibit is merely to locate the time at which the expenditure would be made. It will be necessary, as my testimony continues, for me to point out that one of the important things in making a [fol. 1286] reproduction cost estimate is to determine at what time various expenditures would be made, for the reason that the date at which those expenditures would be made as the construction of the project progresses would determine the time at which money must be secured to provide for those expenses, and provides a basis for the determination of a charge which will be termed Interest during Construction.

Q. Mr. Connor, at no place in connection with your estimate of Preliminary and Organization Expenses have you made any allowance for the compliance with what is known as the Federal Securities Act of 1933?

A. I have not.

Q. I believe this appraisal and estimate of costs was made as of January 1, 1933?

A. That is correct.

Q. The Federal Securities Act of 1933 was not in effect as of the date of the appraisal?

A. That is correct.

Q. But since that time it has come into effect?

A. That is correct.

Q. And by virtue of that Act would additional costs be imposed upon the Company in connection with the issuance of securities?

A. That is correct.

Q. And over and above the costs which you have estimated?

[fol. 1287] A. That is correct; and in substantial amount.

Q. Mr. Connor, on page 71 of Volume 7, Exhibit 28, appear Undistributed General Costs, summarized in the amount of \$9,241,074.00. What do you mean and intend and understand by the term Undistributed General Costs, in a general way, and as used by you specifically, in connection with your estimate?

A. Mr. Biddison, when he presented the estimate of costs of reproducing the physical property of Lone Star Gas Company, based his estimate upon what is termed direct structural costs—that is, those costs which could be definitely allocated to specific items of property. He also limited that estimate to certain very definite points in connection with the costs of construction, to which he added certain general costs which would be allocated to specific items of property which I have prepared and included in this portion of the appraisal. Mr. Biddison, also based his estimate upon the assumption that the Company would construct this property with its own forces, without the services of a general contractor—general engineering contractor. That assumption on the part of Mr. Biddison, or that estimate made by Mr. Biddison upon that basis eliminated the item of a contractor's profit and the cost of a contractor's general organization. Now, as of January 1, 1933, Lone Star Gas Company not only had a system of pipe [fol. 1288] lines, gas wells, gathering lines, field lines, compressor stations, measuring stations, and other items of physical property; it had also a complete record on its books of the book cost of each and every item of property entering into that appraisal described by Mr. Biddison; it also had complete engineering records, and complete geological records, which had been accumulated over a period of more than twenty years; it had complete records of its land and leases, which represented items of value just as real and just as necessary for the operation of the property as the pipe lines and the compressor stations. In addition to that, Mr. Biddison's estimate stopped with those costs, as I have said before, which had to do with building that property on the ground. Any one knows that in building a property consisting of four thousand miles or more of pipe lines, gathering lines, of many thousand horse-power compressor stations, and gas wells distributed over the States of Texas and Oklahoma, that no property of that kind could be constructed unless there was a certain definite direction given to those expenditures by an organization which would be required to plan the program of keeping the records, to purchase the material, to keep track of every piece of material that goes into the project, to account for every penny of money that would be expended in the [fol. 1289] project, that would keep a definite, accurate record of all of the company's interests in land and real

estate. There would also be necessary expenditures in connection with the examination of titles, the drawing of contracts, the defense of law suits, and innumerable other things which contribute to the cost of building a property, but which can not be definitely allocated to this piece of pipe line or to that piece of pipe line. It is those things and those expenses which I have estimated in this portion of the appraisal.

Q. Now, Mr. Connor, do the books of the Company reflect historically all of the undistributed and general costs which have actually been incurred by the Company over a period of twenty-five years, or the period of its corporate existence.

A. They do not.

Q. Do you know that of your own personal knowledge?

A. I do.

Q. And in your estimate as set forth in Volume 7 of Defendant's Exhibit 28 have you endeavored to determine the nature of those costs and the expense which would be incurred in replacing on a wholesale basis the entire property and business of Lone Star Gas Company?

A. That is what I have endeavored to do, and if the Company had been able or had, during the entire history of its operations, set up on its books definitely and precisely [fol. 1290] the amount of these so-called general and undistributed charges which would be attributable to what we call capital account as distinguished from an operating account, that accurate record would still fail to reflect what those costs would be in the reproduction of this property.

Q. Why is that true, Mr. Connor?

A. Because as an operating company, starting out on a small scale, increases its property account from year to year by the addition of a pipe line here and a compressor station there, it has during that time a perfected operating organization. Now, a perfected operating organization can absorb a large amount of the details in connection with the construction of a property built in that way; in other words, Lone Star Gas Company, as an operating company, has a Purchasing Department with a General Purchasing Agent and all of his assistants—price clerks, invoice clerks, order clerks; it has a well-organized Stores Department, with a Supervisor of Stores and the storekeepers in the field, and the clerks in the office, who keep track of all the materials in the property of Lone Star Gas Company.

Those departments are necessary for the operation of the property. Now, when you come to build a pipe line these men can absorb the duties which would be solely chargeable to construction, if that property was only being constructed [fol. 1291] and not being operated, because you would have to have your Purchasing Agent, your Stores Supervisor, and your administrative officers during the period of construction if there wasn't one bit of operation taking place. Therefore, an estimate of the reproduction of Lone Star Gas Company constructed within a period of three and one-half years would not reflect what might be historically ascribed to those costs during the piecemeal development of the property.

Q. Now, Mr. Connor, is there any duplication in your estimate of the Undistributed General Costs and Mr. Bid-dison's appraisal of the direct structural costs?

A. Absolutely none.

Q. Into what main classifications might your Undistributed General Costs be subdivided?

A. I have subdivided them in exact accordance with the organization structure of Lone Star Gas Company, because I believe that that would be the logical way to handle the General and Undistributed Costs of a company in construction, when it was being constructed by its own forces. These groups are the Executive Section, the Legal Section, the Accounting Section, the Treasury Section, the Land Section, the Geological Section, and the Purchasing Section. [fol. 1292] Now, I have also included an item for what I have termed Other General Costs; and those costs, in so far as this estimate is concerned, represent certain very general costs which would be applicable to each of the departmental or sectional costs which I have just enumerated; in other words, the office building where these organizations would have to be housed during the period of construction.

Q. Now, Mr. Connor, all of the costs in connection with the Executive, Legal, Accounting, Treasury, Land, Geological, and Purchasing Sections, might they be characterized as being included under the term of Administration and Legal Costs?

A. Those particular sections which I have enumerated are generally described as Administration and Legal Costs.

Q. And which Administration and Legal Costs are summarized on page 79 of Volume 7 of Defendant's Exhibit 28?

A. That is correct.

Q. Now, Mr. Connor, will you please explain to the jury what you mean by Executive Section Costs, and what would be included thereunder?

The Executive Section, as used in this exhibit, is that section of the General Costs which would be responsible for the general policies of the company, the procuring of funds for the construction of the property, the initiating and making of contracts, and the employment of Department heads; and through the individuals in responsible positions in the Executive Section would the entire work of the other Departments of the Company be directed.

[fol. 1294] Q. Now, as the basis for the estimate of the cost of the men who are in the Executive Section and their time and labor that would be devoted to the work, have you in your development of the estimate of costs followed closely the exact organization of the Lone Star Gas Company?

A. I have, almost precisely.

Q. In other words, the company has certain executive officers?

A. That is correct.

Q. And had them as of January 1, 1933?

A. That is correct.

Q. They are paid salaries?

A. That is correct.

Q. They are reimbursed for their expenses?

A. That is correct.

Q. They are compelled to have stenographers and clerks and maintain offices and in the carrying on of their work they necessarily incur costs for stationery, typewriters, telephones, etc.?

A. That is correct.

Q. Have you endeavored to make a rational estimate of the costs of the Executive Session by taking into consideration all of those factors?

A. That is correct. Now, in answer to your question as to whether or not I have used the present set-up of Lone Star Gas Company I said "yes". I did that, however, because I feel that if the property were reproduced it would be necessary to have each of the executives in assuming the [fol. 1295] responsibilities that I have set out in this esti-

mate; in other words, I was not controlled merely by the fact that Lone Star Gas Company had these executives as an operating company, but I was controlled by my belief that each of the individuals that I have set out in this estimate would be necessary in the reproduction of this property.

Q. Mr. Connor, will you refer, please, to page 72 of Volume 7 of Exhibit 28? On that page have you set forth in graphic form or chart form the general construction organization which would be involved in the reproduction of the Lone Star Gas Company property?

A. I have.

Q. Now, at the top of the page it appears that the construction organization was set up for the year 1932?

A. That is correct.

Q. Was it in being as of January 1, 1933?

A. That year designation would really have no effect upon the chart. The chart is simply a graphic delineation of the organization which would be required to reproduce Lone Star Gas Company in 1932, 1933, or 1934, for that matter.

Q. Or as of any date—

A. Any date as of which time the property was as large and complex as it was of the date of the appraisal.

Q. Now, Mr. Connor, relate in a general way the personnel of the Executive Section and the duties that would devolve upon that personnel in the construction of the property.

[fol. 1296] A. The company would have a President, who would be the responsible officer of the company. He would select and negotiate the services of the other men who would be a part of the executive organization; he would be responsible for the direction of these officers, once they have been employed. He would determine the policy of the company; he would conduct all negotiations with owners of distributing plants in cities proposed to be served by the company; he would conduct all negotiations with people who own gas distributing plants—artificial gas distributing plants—to whom the company would expect to make delivery; he would also direct the negotiations with the large industrial consumers of natural gas relative to the purchase of gas for industrial purposes; he would be responsible for the negotiations with governmental and regulatory authorities; he would check and approve all estimate-

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of cash required for construction, the drilling of wells, the purchase of leases, and all other costs which the company would incur during its construction; he would make reports monthly to the Fiscal Agent, the trustee under the mortgage, relative to the amount of money that had been expended and the progress that had been made. It would be necessary to have a man whom I have designated as the Assistant to the President, who would correlate all of the statistical information which the President of the company would require. He would be really the President's eyes and ears, because it would be necessary that the President [fol. 1297] of a large construction program of this kind be relieved of all the details possible during the period of construction.

Q. What would require the services of such a man as Mr. Huley, who has testified here in this case?

A. Mr. Huley is the man I had in mind as representing the type of man on whom such a responsibility would fall and the type of man who would be capable of performing those duties. One of the most important men connected with the executive group during the construction of a property such as Lone Star Gas Company would be the Vice-President and General Manager. He would be responsible for the design of the system; he would be responsible for the organization of certain departmental groups, such as the Engineering Department, the Department of General Supervision of Construction, the Geological Department, and the Purchasing Department; he would be responsible for the final selection of gas acreage; he would be finally responsible for the location of all wells to be drilled; he would be finally responsible for the making of gas purchase contracts, and he would be finally responsible for the costs of all construction. A man of this type would of necessity be a man with wide experience in the natural gas business; he would probably be an engineer, trained, because he would be called upon to make decisions which could only be made by a man who had had such experience. The company would also require the services of a General [fol. 1298] Counsel, who would be responsible for the organization and direction of the Legal Department of the company, and he would be responsible for the selection of the personnel of the Legal Department; he would be responsible for the preparation of all contracts and the conduct

of all litigation arising out of the progress of the construction of property; he would be responsible for all corporate matters and all legal matters growing out of the mortgage and the provisions of the mortgage; he would advise all other executives of the company relative to their work and actions with reference to the legal phases of the business; he would be finally responsible for all titles of lands owned by the company and leases, and he would be finally responsible for the settlement of all claims against the company, and he would be required to assist the President in negotiating with governmental agencies and regulatory authorities, such as the Railroad Commissions of the State of Texas and the State of Oklahoma, and he would be generally responsible for the supervision of the Land, Lease and Right of Way Department. It would be necessary to have a Secretary and Treasurer, who would be directly responsible for the organization of the Accounting Department, that section of the company's organization which would keep a record of all expenditures that were made during the construction of the company; he would also be responsible for the organization of the Treasury Department, which would be responsible for paying all employees, the preparation of payrolls, the checking of expense accounts, the keeping of currently correct bank balances of the company; he would be responsible for the adoption of a classification of accounts by the company; he would be responsible for the type of accounting system installed by the company, and he would be responsible for the initiation of all tax and insurance records; he would have to select the insurance companies and handle all the details with the insurance agents, because there would be a mass of insurance matters arising in connection with the construction of a property such as the Lone Star Gas Company; he would be responsible for the contracts with the tax authorities in the various districts, counties and subdivisions of the State wherein Lone Star Gas Company would be constructed; he would be responsible for the filing of all corporate reports required by county, State and Federal authorities; he would be responsible for all cash receipts and disbursements, and he would be responsible for the stock records of the company and transfers and for the listing of the stock of the company on a stock exchange.

Q. He would need the assistance of many men, but, as set forth on page 89 of Volume 7 of Defendant's Exhibit 28,

he would need an immediate assistant who would perform and be capable of performing the duties of Secretary-Treasurer?

A. That is correct. The mere details in connection with taxes and insurance would require the services of an efficient assistant, who would keep a record of all matters pertaining to taxes and insurance during the period of construction.

Q. Mr. Conner, commencing at page 86 and concluding [fol. 1300] at page 93 of Volume 7 of Defendant's Exhibit 28, have you endeavored to set forth the men who would constitute the Executive Section or department of the company, together with a schedule of salaries and expenses which would be paid?

A. That is correct. Now, in connection with the estimate that I have made of the Executive Section, I would like to make this explanation, because it will be applicable in a measure to each of the subsequent sections; that is, I have estimated these expenses by periods. For instance, I have estimated that the preliminary and organization period would consume a year and a half and that it would take six months from the time that the corporate organization was perfected to get the project ready to begin the actual construction of the property. That six months period I have called the preliminary construction period. You can readily understand that during that time all of the men in the executive and other sections of the company's organization would be pressed to the limit in order to get the materials on hand, prepare the plans, and get the organization perfected and out in the field and build this property. Now, I have estimated these expenses by years therefor, dividing them into the first construction year, second construction year, and third construction year.

Q. In order to illustrate the development of the property of the Lone Star Gas Company have you prepared for introduction in evidence here a chart showing the progress of the stages of development in connection with the construction [fol. 1301] of the properties and the acquisition of the business?

A. I have.

Q. Is this the chart to which you refer?

A. It is.

Mr. Griffith: We offer the chart so identified by the witness in evidence.

(Thereupon the chart above referred to was marked as Defendant's Exhibit No. 36.)

Q. Mr. Connor, the jury have been furnished with copies of the chart which has just been introduced in evidence styled Defendant's Exhibit No. 36. I wish you would explain the basis upon which the chart was prepared.

A. I will give a general explanation, Mr. Griffith, at this time, and as the explanation of the exhibit develops the detailed application of the chart to the particular thing under discussion I will again refer to the chart. Will that be satisfactory?

Q. It will.

A. It will be noted from the top and the bottom of the page that there are nine years accounted for. With particular reference to the bottom of the page it will be noted that on the first and second years one and one-half years is absorbed by the preliminary development organization period and that one-half of a year, or six months, is absorbed by what is designated the pre-construction period. Following that, we have the construction period, which absorbs the first [fol. 1302] year, the second year, the third year, and the post-construction period of six months. Now, the post-construction period, in so far as I have used that term in connection with my estimate, refers to the costs which would be incurred after the construction of the property had been completed, by certain departments; for instance, the Accounting Department; it would take the Accounting Department six months after this property was completed to finally get a complete record of the physical property of the company on the investment ledger of the company. It would take The Purchasing Department and the Stores Department six months at least to wind up all of the construction details which would be left over after the completion on the ground of the pipe lines and compressor stations, and as we come into the various departmental discussions it will be noted that certain other departments would be required to do work after the property had actually been completed in the field, and that is the reason why the post-construction period has been included. It will be noted that at the end of the third construction year, following the black lines which stairsteps up—the heavy black lines which stairstep

up, that we have assumed that the cost of reproduction, exclusive of the cost of business development, will have been complete at that point, because, as will be noted on the right hand of the graph, the percentage is indicated to be one hundred per cent for a point corresponding to the expenditures made during the three construction periods and the preliminary development period. Now, as I started to [fol. 1303] explain before, I have estimated the costs of these various departments by years, because I wanted to know the expenditures which would be made by years in order to make an estimate of what the cost of interest during construction and the cost of taxes during construction would be. Now, I have not only made an estimate as to what will be subsequently developed by years of the cost of these general and undistributed expenses, but I have also made an estimate—a very careful estimate—of the actual physical property which would be constructed during each of the three years construction program which I have used. At the proper time the details of that estimate will be developed. Now, I have also assumed that as this property progresses during the construction period a portion of the responsibilities of the Executive Section, the Purchasing Section, the Treasury Section, and the other departments will be transferred from the construction of the property to the operation of the property, for the reason that I have assumed—and properly so—that in the construction of a property such as the Lone Star Gas Company within a three year period, that at times during the construction of the property a certain proportion of the total property constructed would pass into operation, and I have, therefore, reduced by successive exhibits the amount of money which I have estimated would be chargeable to the construction of this property for the various departmental groups, assigning the rest of the cost [fol. 1304] for offices and salaries and expenses to the cost of operation, which of course is not included in the reproduction cost estimate.

Q. Make a very simple illustration, Mr. Connor, a clerk in the office was paid one hundred dollars a month and whose time during the construction period was devoted fifty per cent to construction work and fifty per cent to operating work, what amount would be charged against cost of construction in your estimate of the undistributed and general costs?

A. Fifty dollars a month for that period of time. Now, I have specific reference to the Executive Section. I have assumed that during the second construction year twenty-five per cent of their activities would be directed to the operation of the property and not to the construction of the property.

Q. And, therefore, twenty-five per cent of their salaries and expenses would not be included as a part of the cost of construction?

A. That is correct, and for the third construction year I have assumed that fifty per cent of their activities and interest would be wholly devoted to the operation of the property.

Q. What you have said in that connection with reference to the Executive Department or executive officers, their assistants and clerks, would be similarly true in respect of the other departments, such as the Stores Department, Purchasing Department, Accounting Department, etc.?

A. In some of the departments, Mr. Griffith, I have gone so far as to analyze the individual employes who, I think [fol. 1305] would be transferred from one phase—that is, from construction of the property to the operation of the property, rather than employing a separate percentage, which I did in the case of the Executive Department.

Q. Mr. Connor, commencing at page 95 of Volume 7 of Defendant's Exhibit 28 and running through page 115, have you given a development of the costs that would be incurred in connection with the Legal Section and which costs would be a part of your general and undistributed costs.

A. I have made such an estimate, and it is set out in detail on pages 95 to 116, inclusive.

Q. Now, what would be in a general way the work of the Legal Department, summarizing it as briefly as you can?

A. The Legal Department would be responsible for the examination approval and drawing up in proper form of all contracts, franchises, easements, deeds, abstracts of title, insurance policies, notes, bonds, mortgages, leases and governmental reports of all kinds and character. They would render legal advice to all the departments, and they would defend the interests of the company in its litigation, a great amount of which would necessarily arise in connection with the reproduction of the property and business of the Lone Star Gas Company.

Q. Now, does the company actually have at this time, and did it have as of January 1, 1933, and all periods mentioned in connection with your appraisal, a Legal Department of substantially the same size as detailed by you in connection [fol. 1306] with Volume 7 of Defendant's Exhibit 28?

A. That is correct. They did. My estimate of the legal costs in reproduction of Lone Star Gas Company property and business includes an organization which is almost identical with the organization which the company now has in the operation of its property.

Q. Now, in addition to the attorneys and the organization which the company presently has in its Legal Department, has it been necessary and is it necessary for the company to retain outside attorneys at various places on its pipe line system?

A. It would most certainly be necessary during the progress of the construction of this property during the three year period, and I have made a conservative allowance for retainer fees for counsel whose places of residence would be strategically located with reference to the construction of the property.

Q. If we refer to page 105 of Volume 7 of Defendant's Exhibit 28, have you there detailed local attorneys that would be retained by the company in the various towns and cities on its pipe line system?

A. I have.

[fol. 1307]. Q. Please refer to page 105 of Volume 7, Defendant's Exhibit 28, have you there detailed the local attorneys who would be retained by the Company in the various towns and cities on its pipe line system?

A. I have.

Q. And does that detail conform almost exactly to the local attorneys who are retained by the Company at the present time, and who were retained as of January 1, 1933?

A. They do.

Q. Mr. Connor, on pages 108 and subsequent pages, have you endeavored to detail the costs other than salary costs which would be incurred by the Legal Department in connection with its operation during the construction period?

A. I have.

Q. And is that estimate of cost based upon a very careful study of the experience of the Company?

A. That is correct. It is in connection with the estimate of the costs which would be incurred in connection with the

defense of lawsuits. 'I conferred with Mr. Roy Coffee very extensively, and in connection with him worked up estimates based upon the actual experience of the Company as to what it would cost and what it had cost to defend these suits and what percentage of these suits were appealed from one court to another, and what the costs were in each of the trials involved. The Stationery costs in each of the sections [fol. 1308] was based upon a careful analysis of how much stationery a man uses in a year, and based upon the actual expense of stationery and supplies for each individual in a very large department.

Q. Now, you mentioned Mr. Roy Coffee. Who is Mr. Coffee?

A. Mr. Roy Coffee is the first counsel of the Legal Department of Lone Star Gas Company.

Q. On page 115, of Volume 7, have you made an estimate of costs covering the housing of the Legal Department and the expenses in connection with the office furniture and fixtures which would be utilized by that department?

A. I have made no specific study of the costs of housing the department, other than to suggest the amount of floor space which would be required. As I testified a while ago I have made a separate estimate, which I have described as "Other General Costs," of what I estimate would be the cost of rent or its equivalent during the construction period. I have included, however, a detailed inventory of the office furniture, fixtures, and library equipment of the Legal Department, which I have only included as a part of the costs that part represented by the depreciation on this equipment during the construction period.

Q. And is that estimate based upon the actual equipment the Legal Department now has?

A. That is correct; together with such current publications and services as the Legal Department actually subscribes to.

[fol. 1309]. Q. Mr. Connor, there next appears under your estimate of Administration and Legal Costs the costs which the Company would have in connection with the Accounting Section?

A. That is correct.

Q. Do you set forth on page 120, of Volume 7, of Defendant's Exhibit 28, an organization chart, showing at the top

of the Chart the Secretary and Treasurer and the various individual officers and employes in the Accounting Section who are responsible to the Secretary and Treasurer?

A. That is correct; I do.

Q. Now, what would be the general function of the Accounting Section, and what would be its duties in connection with the construction of the Lone Star Gas Company property?

A. It would keep proper records of all monies disbursed, and properly distribute and allocate all charges as prescribed by the Standard Classification of Accounts for natural gas utilities. That general statement, of course, could be amplified by a description of the various things which the individual person of that organization would be required to do in order to keep a record of the Company's property and the expenditure of its money.

Q. Now, refer please to page 120, of Volume 7, of Defendant's Exhibit 28, and just relate to the jury in a general way the personnel that would be involved in the Accounting Section?

A. The Secretary and Treasurer, who would be really the [fol. 1310] head of the Accounting Section, has already been discussed in connection with the Executive Section. He is shown on the chart merely for the purpose of showing the ultimate responsibility of the Accounting Section, which would be, as I have previously testified, the Secretary and Treasurer of the Company. The active individual, who would be in charge of the Accounting Section, would be the Comptroller, and under him would be a general auditor, who would in turn be responsible for what is termed the General Book Section, the Distribution Section, and the Plant Equipment Section. In connection with the Accounting Department there would also be a traveling auditor, who would go into the field and check up the accounts and disbursements of the various superintendents, who would necessarily make emergency purchases and expenditures in the field. Now, this section that I have here—this Accounting Section 9ss is one that would be absolutely required in order to keep a record of where the money went, and to maintain a check on the expenditure of the money of Lone Star Gas Company during its construction. In order to familiarize myself with the duties of individuals that are set out in this section I have sat at the desk of every man that I have included in

this estimate and familiarized myself with exactly everything he would have to do if this property were under construction. I have followed a job from the time it was authorized by the executive officers of the Lone Star Gas Company [fol.1311] straight through each department, which I am going to explain in connection with this estimate, and have sat at the desk of each of the individuals that I have set out as part of the organization that would be required in connection with this work.

Q. Does the organization chart appearing on page 120, of Volume 7, of Defendant's Exhibit 28, conform to the actual personnel of the Accounting organization of Lone Star Gas Company as now established and as established at January 1, 1933?

A. The general plan is identical with the present organization, but the distribution of employes and the assignment of responsibility to the various employes is somewhat different, for the reason that the Lone Star Gas Company is at the present time almost entirely operative.

Q. In other words, the Company has very little construction under way at the present time?

A. That is correct.

Q. And that is true, and has been true for a period of a couple of years?

A. That is correct.

[fol. 1312] Q. Mr. Connor, commencing at page 121, and ending at page 140, have you attempted to set forth a detail of the work which would be done by the Accounting Section, together with your estimate covering salaries to be paid and expenses?

A. That is correct. I have set out in detail just exactly what each individual included in the estimate would be required to do; and as in the case of the Executive Section, I have successively reduced the amount of time and money ascribed to the Accounting Section as the construction progressed and as the Accounting Section's responsibilities would be shifted from one hundred per cent construction to a property in partial operation and in construction at the same time.

Q. Appearing at page 142 of the same volume, same exhibit, and under the heading of Administration and Legal

Costs, there next appears a general summary of salaries and expenses of the Treasury Section?

A. That is correct.

Q. And on page 144 of the same volume appears an Organization Chart of the Treasury Section. Now, Mr. Connor, please explain, in a general way, what would be the work of the Treasury Section, and how you arrived at your estimates of costs covering the Treasury Section.

A. The Treasury Section, like the Accounting Section, would be directly responsible to the Secretary and Treasurer of the Company, who, as I have previously explained, would [fol. 1313] be a member of the Executive group. The Treasury Section would be directly responsible for the receipt and disbursement of all funds; the preparation of budgets and estimates, the reconciliation of bank balances, and of payrolls and expense accounts covering the salaries and expenses of all employes engaged in the construction of the plant, and that refers to the employes in the field as well as the employes who would be in the general office.

Q. Mr. Connor, would the work of the payroll division of the Treasury Section be a very sizable job in itself?

A. It certainly would, together with the checking of expense accounts and payrolls, that item alone would involve the work of a number of employes whose duties and the details of whose work I have set out in detail in the exhibit.

Q. The nature of the duties performed by the Treasury Section, and your estimate of salary costs and other expenses, is contained in pages 145 to 153, inclusive, of the Exhibit?

A. That is correct.

Q. Does the Organization Chart set forth at page 144 conform very closely to the actual Treasury Section organization which the Company now has, and which it had as of January 1, 1933?

A. It conforms almost exactly with that organization, it being understood, of course, that the duties—the specific duties of the organization as set out would be almost directly to items attributable to construction during the first [fol. 1314] construction year; and I have estimated that 25 per cent of the personnel of the Treasury Section would be attributable to operation during the second year; and that fifty per cent would be attributable to operation during the third construction year.

Q. What have you set forth on page 155, as well as on page 157?

A. On page 155 I have set out a general summary of the estimate of the costs of the Land Section during construction; and on page 157, I have set out a graphical analysis of the individuals who would be employed and their relative responsibilities in the organization.

Q. Does the Land Section which you have charted on page 157 of this Exhibit conform almost exactly to the actual land department or Land Section which the Company had as of January 1, 1933, and which it now has?

A. It does.

Q. What would be the general duties of the Land Department or the Land Section?

A. Upon the Land Section would devolve the work in connection with the acquisition of fees lands, surface leases, mineral leases, gas purchase contracts, rights-of-way, easements, leases and road grants, and all miscellaneous contractual relations in any manner affecting lands, or interest in lands, of the Lone Star Gas Company.

Q. Mr. Connor, Mr. Biddison testified here in detail in connection with the acquisition by the Company of lands, [fol. 1315] rights-of-way, and leaseholds, and in connection with the evaluation of certain lands and rights-of-way he made allowances for costs of acquisition. Is there any duplication in the allowances for costs of acquisition as made by Mr. Biddison and testified to by him in connection with Volumes 1 to 6, Defendant's Exhibit 28, and the costs which you have evaluated?

A. There is no duplication. Mr. Biddison and myself conferred throughout the preparation of this estimate and checked each and every detail of this portion of the exhibit against the portion of the exhibit for which he was primarily responsible in order to eliminate any possible duplication of costs.

Q. What would be the general differentiation or distinction between the costs which Mr. Biddison evaluated in connection with the acquisition of lands and leaseholds and the costs of the Land Section as estimated by you?

A. Very much like the general difference between the phases of the property that he made an estimate of and the estimate of costs which I have made. That is, Mr. Biddison confined himself to those charges which would

be directly attributable to an individual property item which could be identified and inventoried. These charges which I estimate the cost of are charges which are so general that they could not possibly be ascribed to an individual item of property; and that is true of the land and [fol. 1316] lease division, as well as all other divisions or sections concerning which I have testified.

Q. It would appear from the organization chart appearing on page 157 of this exhibit that a part of the costs evaluated are for the purpose of keeping the records of the Land Department. I will ask you if the Land Department has full and complete records in respect of every leasehold or right-of-way, or other interest in the land which the Company has?

A. It has. These records are complete. They represent the accumulated work which has extended over a period of more than twenty years. In this estimate of the cost of the Land and Lease Department I have attempted to make an estimate of what it would cost in connection with that phase of the Company's property to reproduce those records within a period of three and a half years. The Land and Lease Department not only keeps a record of the lands owned by the Company, but it maintains records of all drilling operations in the areas in which Lone Star Gas Company owns leases and gas rights, and also maintains records of all drilling operations in the areas adjacent to these lands. It also has to prepare by the use of clerical help all vouchers and drafts, and agreements, executory contracts, division orders with reference to the payment of royalties, and it keeps a record of all gas purchase contracts, leases, and mineral deeds. It would also be responsible for the direct operation of pur-[fol. 1317] chasing leases. The members of this organization would be the ones that would contact the owners of gas lands and gas wells and gas production. They would initiate the negotiations for the securing of the gas supply of the Lone Star Gas Company.

Q. And that is what the organization actually does in practice?

A. That is correct, and they would also advise the officials of the Company with reference to the advisability of abandoning acreage, rather than maintaining the payment of delay rentals on such acreage.

Q. Commencing at page 158 and ending on page 167 of this exhibit, Mr. Connor, have you attempted to outline the general organization plan and duties of the Land and Lease Department or Section, and give in detail your estimate of the costs and expenses which would be required in connection with that section or department?

A. That is correct. I have set out in detail not only the designation of the individual who would be employed in that department, but also a detail of exactly what he would have to do after he was employed. This department would also examine and check the abstracts of all lands and leases owned by Lone Star Gas Company. It would be responsible for the acquisition from the general standpoint of all rights-of-way, and it would also handle all claims into the Legal Department.

[fol. 1318] Q. Mr. Connor, what appears on page 169 of this exhibit?

A. Just one word in connection with the Land and Lease Section. I have stated in connection with the other departments that as the progress of the work advanced that a certain proportionate part of the expenses of these various departments would be made against the operation of of the Company, and not included in this estimate as a part of the reproduction cost of the general property. Now, in connection with the Land and Lease Department, I have made no such differentiation between the expenses for the various years, for the reason that during this period of construction the Land and Lease Department, as I have set it out would be entirely and wholly involved in matters pertaining to the construction of the property and to its operation, and in the development and acquisition of the records now in possession of the Lone Star Gas Company.

Q. Now, Mr. Connor, coming to page 169 of the Exhibit, what is disclosed on that page?

A. On page 169 there is a general summary setting out my estimate of the costs of reproducing the geological records and information now in possession of Lone Star Gas Company.

Q. And do you carry through a detail of that development of costs from pages 169 to 176 of this exhibit?

A. That is correct.

Q. Mr. Connor, does the Company have a geological department?

[fol. 1319] A. It does.

Q. Does the Geological Department have very complete data and information regarding all gas fields wherein the Company operates, and of other fields in this general territory which are now or which are potentially available to the Company's pipe line system?

A. It does have such records, and these records have been accumulated and developed over a period of more than twenty years. They are a valuable capital asset of the Company, and the estimate which I have set out is prepared for the purpose of making a calculation of what it would actually cost did those records not exist to secure them; and in that connection, the work of the Geological Department, as set out by years in this section of the estimate, is identical with the estimate which I have included for one year as a part of the detail geological estimate which would be made prior to the beginning of construction. In other words, I have estimated that the geological records of this Company would be begun to be acquired prior to the beginning of the construction of the property, and that, I think, is a logical assumption, because it would be necessary to secure a substantial amount of detailed geological information before it would be feasible or logical to make large expenditures in pipe lines and compressor stations.

Q. Mr. Connor, please refer to pages 178 and 184 of this [fol. 1320] exhibit. What have you set forth on those two pages?

A. I have set out on page 178 a general summary of the estimate of the costs which would be involved in maintaining what I have termed the Purchasing Section of Lone Star Gas Company during the construction of its property.

Q. Does the Purchasing Section include men who would be engaged in any work other than the purchase of materials?

A. The Purchasing Section, as I have set it out, includes two other departments other than the Purchasing Department itself, the work of which departments is so closely allied and connected with the Purchasing Department that I thought that it was logical and proper to incorporate all of those charges in the general summary of the Purchasing Section. As a matter of fact, in the Lone Star Gas Company's own organization, the head of the Purchasing Department is the head of the Stores Department, the Sta-

tionery Department, and the Traffic Department, and this estimate which is set out in summary form on page 178 includes the estimate for the Purchasing Department, the Stores Department, the Stationery Department, and the Traffic Department.

[fol. 1321] Q. Does the organization chart appearing at page 184 of the exhibit conform almost exactly to the actual organization which the Company now has in connection with Purchasing Stores and Traffic?

A. That is correct. It is an exact picture of the present organization of the Lone Star Gas Company, and is an exact picture of the organization which would be required should the property be reproduced.

Q. What would be the general work of the Purchasing Department proper, Mr. Connor?

A. The Purchasing Department of a company, such as Lone Star Gas Company, during the period of construction would be extremely important. Not less than thirty million dollars worth of material, of all kinds and classes and description would be required in the property which would remain and be ready for service after the construction was completed, and there would be many hundreds of thousands of dollars of other material which would be purchased and used and currently consumed in actually constructing this property—paper, pencils, erasers, ink, stationery, supplies, forms—things which would wear out, tools and equipment, gasoline, oil—all such things as that. In addition to the compressors, the valves, the pipe, the fittings, and the permanent capital items of property, all of those things would have to be purchased, and one man would have re- [fol. 1322] sponsible charge of that purchasing; and that would be true in any well-organized program of construction. The Purchasing Department would get its first intimation of what was required of it, by means of a requisition for the purchase of material which would be submitted to the Purchasing Agent. This requisition itself would first have to be prepared by the Engineering Department for the purchase of material involved in anything, let us say, like a pipe line or a compressor station. The Engineering Department, in turn, would get its idea and its instruction as to what it should design, from the General Manager and the Executive Department of the organization. But once having made a plan of a pipe line or a structure, the various individuals in the Engineering Department who would be re-

sponsible for making a detailed summary and set up detailed specifications of these various items, would prepare a requisition, which would then be submitted to the Purchasing Department, in order that the Purchasing Department might initiate the steps toward securing this material. Now, the Purchasing Department, as I have said before, would have as a subsidiary department one of the most important parts of the whole organization, which is designated the Stores Department. Now, Mr. Biddison has testified in connection with his part of this estimate that the stores expense on certain classes of material included in the inventory [fol. 1323] would be, I think, approximately four per cent of the cost of those materials. Now, the stores expenses that Mr. Biddison was talking about are those stores expenses which would be incurred in the field; and, when I get a little further along in my explanation of the duties and functions of the Stores Department and the Purchasing Department, I think I will make it very clear as to why there is no duplication in this estimate and in the estimate prepared by Mr. Biddison. Now, the requisition comes to the Purchasing Agent; a large amount of material has already been purchased and delivered, we will say, delivered to warehouses located at convenient points throughout Texas and Oklahoma in order to facilitate the construction of this project. Once that material is delivered—once a shipment of that material is made, the Stores Department becomes responsible for it until it gets on the investment ledger of the Company. The Stores Department is responsible for every piece of property which would go into this plant, from the time it is shipped until it is accounted for, as I said before, on the investment ledger of the Company. Now, having these warehouses and having materials stores in these warehouses, the Purchasing Department or the Purchasing Agent refers his requisition to the store keeper. And why does he do that? It would not be good business to purchase a valve or a fitting or a piece of pipe or any piece of equipment [fol. 1324] until you found out first whether or not you had some surplus supply of such equipment on hand, and where it was located. The Purchasing Agent then turns that requisition over to the Supervisor of Stores. The Supervisor of Stores of the Lone Star Gas Company knows every day where every piece of equipment in the possession of the Lone Star Gas Company is located and what the current price on that equipment is; whether that material is

located at the Petrolia warehouse or the Ranger warehouse or the north Fort Worth warehouse, or wherever any warehouse may be, the Purchasing Agent of the Lone Star Gas Company knows tonight what material he could furnish out of stock upon a requisition made upon the Purchasing Agent. So the Supervisor of Stores receives that requisition from the Purchasing Agent and encircles the items which he can furnish out of stock; then the Purchasing Agent goes through the process of placing orders for the material, securing prices for it, contacting the vendors who can furnish the particular class of material included in the requisition once those orders are placed. A careful record has to be maintained of each and every order, and think just what that would mean in buying thirty million dollars worth of material to construct a plant of this kind. The invoices are checked, that material must be delivered and accounted for; those records come to the Purchasing Agent; [fol. 1325] his files are never closed on an item that he places a purchase order for until he is sure that that material has been received, that the material received conforms to the specifications of the material ordered, that it is in good order, not damaged in transit, and that the invoice and prices are correct. In the meanwhile, the Stores Department goes through a similar process with reference to materials which are available in the stores. If there are certain valves in the Petrolia warehouse which can be used in the construction of Line B, or some other line, a material transfer order is made out, which is nothing more nor less than a purchase order, assuming that the Company itself is the vendor and not the valve manufacturer; and the same process is followed in the transfer of material from a warehouse to a job, or from one job to another, and an accurate record is kept of each and every transfer. The Stores Department is finally responsible after the receipt of material, the checking of material in the job and the checking of the invoices turned over by the Purchasing Department. It makes up the vouchers which are in turn transferred to the Accounting Department, thereby giving the Accounting Department the basic data upon which it can make its final entry into the investment ledger of the Company. Now, those steps that I have illustrated are the very things which take place on each requisition for a [fol. 1326] bunch of material which comes from the Engineering Department to the Purchasing Department, and

those are the exact steps which would be followed in the reproduction of this property if the property records were going to be kept, so there would not be a vast amount of unused material left over at the end of construction, or if the records were kept so that the Company could put on its investment ledger an accurate and careful record of what and where each and every piece of material was and went; and the Lone Star Gas Company has at this time and had as of January 1, 1933 an accurate record of where each and every item of material which has entered into its plant is located and those records are on the investment ledger of the Company.

Q. Now, Mr. Connor, commencing at page 185 and going through page 201, have you on this exhibit—that is, Volume Seven, Defendant's Exhibit 28, have you set forth the organization plan of the Purchasing Section, the duties of the Section, and a detailed estimate of the costs in connection with the Purchasing Section?

A. I have. If anyone takes the exhibits they can follow the steps that I have attempted to explain and they can recognize the individual employees who would be responsible for keeping track of each of these steps, and they would also be able to follow the summary of the estimate shown on page 178.

Q. Commencing on page 201 of the same volume—same [fol. 1327] exhibit, and going through page 213, have you set forth the organization plan of the Stores Department, and a detailed estimate of your costs in connection with the Stores Department?

A. I have. The detail also sets out, Mr. Griffith, the amount of expenditures which would be made during each of the construction years and during the post-construction period.

Q. Mr. Connor, refer please to page 215, same volume, same exhibit. What appears on that page?

A. That is a summary of the salaries and expenses which would be involved in maintaining the Stationery Department of the Lone Star Gas Company during the period of construction.

Q. And commencing at page 215 and going through page 220, have you detailed the nature of the duties that would be performed by the Stationery Department, and shown your estimate of the cost of expense of the Stationery Department?

A. That is correct, I have.

Q. Now, what would be the general duties of the Stationery Department?

A. The Stationery Department would be a subdivision of the Purchasing Department, and the head of the Stationery Department would be, as he is in the actual organization of the Lone Star Gas Company, an assistant Purchasing Agent. He would be responsible and his department would be responsible for the maintenance of supplies [fol. 1328] and stationery, the preparation of forms, the purchase of furniture and office equipment. The construction records and bookkeeping records which would be involved in maintaining a record of all construction costs of the Lone Star Gas Company run into the thousands, and it would be necessary, in order to provide currently the forms necessary to prepare all reports and keep all records, a Stationery Department, multigraph operators, mimeograph operators, and substantial supplies of stationery stock. The Stationery Department would be the department which would be responsible for that phase of the general expenses.

Q. And the organization which you have set up for the Stationery Department conforms very closely to the Stationery Department which the Company actually has as of this time and had as of January 1, 1933?

A. The personnel of all the Purchasing Sections conforms almost exactly with the present set-up of the Purchasing Stores, Stationery and Traffic Departments of the Lone Star Gas Company.

Q. Commencing at page 222 of this volume of Exhibit 28, Mr. Connor, and going through pages 224, it appears that you have detailed the duties of the Traffic Department and your estimate of costs of the operation of that Department which would be ascribable to construction in connection with the reproduction of the Company's property?

[fol. 1329] A. That is correct; I have.

Q. Please state to the jury, in a general way, what would be the duties of the Traffic Department.

A. The Traffic Manager and his assistants would be responsible for the securing of the best rates for the transportation of all of the material which would be required to be transported in the construction of Lone Star Gas Company. He would be a man who would be familiar with railroad tariffs, and he would be directly responsible from the

date of entry of the purchase order, for the routing and transportation of the material ordered.

Q. In connection with a great deal of the property or materials which would be purchased for the reproduction of Lone Star Gas Company, I will ask you if those materials would have to be transported over a considerable mileage?

A. They would. A very large part of the materials of construction which would enter into the property of Lone Star Gas Company would originate either in Ohio or in the Pennsylvania-Pittsburgh area.

Q. That would be true in relation to steel pipes and compressors?

A. That is correct.

Q. Constituting a major portion of the physical property of the Company?

A. That is correct.

[fol. 1330] Q. And would the Traffic Manager not only direct the route of shipments but as well be responsible for any claim against the railroads for damages in connection with such shipments?

A. He would handle all claims for damages on information furnished primarily by the Stores Department.

Q. That is, if the Stores Department reported that a car load of pipe was received in bad order, he would be responsible for the presentation of that claim to the railroads?

A. That is correct.

Q. And would he have a multiplicity of other duties in connection with the shipment of materials?

A. He would have to keep in constant contact with all vendors relative to the prompt delivery of the material ordered through the Purchasing Department. There is nothing that could create more confusion or bring about costs substantially in excess of those estimated by Mr. Biddison, than would a situation which would arise by reason of delay in the delivery of pipe or coupling or fittings on a large construction project; and the Traffic Department which I have outlined in this estimate would be that Department which would be responsible for the elimination of such added costs.

Q. Does the Company have a Traffic Department as of this time, and did it have as of January 1, 1933, which conforms, in a general way, to the organization set-up which [fol. 1331] you have detailed in this exhibit?

A. It does.

Q: Mr. Connor, commencing at page 225, of Volume Seven Defendant's Exhibit 28, there appears a General Summary of Other General Costs, in the amount of \$201,574.00. Please relate to the jury, in a general way, what would be the items which would enter into and comprise these General Costs aggregated the amount stated?

A. The first item is what I have designated the Office Building Costs. It is certain that an organization which would be required to do the many things which would be required in connection with the reproduction of this property, would have to be housed in some suitable place to do their work. The cost of such accommodations might very well be rent in some office building during the period of construction. I have conceived that if this property should be reproduced, the Lone Star Gas Company would do just what it has done in the operation of its business, and that is build an office building suitable for the purpose of housing the various Departments which would be required during the construction period.

Q. In fact, build the office building which the Company actually has in Dallas?

A. That is correct, and I think there is no question but what the entire floor space of such an office building would be required during the construction period, to provide for [fol. 1332] the personnel which would be necessary during that time. Now, in order to make an estimate of what that cost would be, I have taken the actual cost of the Lone Star Gas Company office building—that is, the operating cost—the cost which would be currently occurring for the years 1929 and 1930, and averaged those costs. Now the reason that I did that was because after 1930 the Lone Star Gas Company was operated jointly—I mean the building of the Lone Star Gas Company, was operated jointly with the building of the Dallas Gas Company, and it is almost impossible to make a definite segregation of the operating expense since the time that that change has been made. So I took the last two years in which the building was operated as an entity and have used the average of those two years as my estimate of what the housing costs would be.

Q. Now, what entered into those costs? Just give the jury a general idea of the cost of the operation of the Lone Star Gas Company building.

A. The largest item is the janitor service, and the next largest item is the ad valorem taxes, repairs to machinery,

repairs to building, light and power constituted a sizable item, an average of \$4607.00 for each of the two years; water \$3788.00; fuel—

Q. Are you not mistaken about that water cost?

A. I am. I have got to get this line straightened out [fol. 1333] here. (Witness adjusts ruler.) Light and power is \$4607.00; building engineer and help was \$3786.00; water, \$358.00; fuel \$1725.00.

Q. Well, those are just a few of the typical—

A. Those are illustrative of the charges and of course the largest is \$8765.00 janitor service, and \$6851.00 for ad valorem taxes on the office building and site; but the average for the two year period was \$39,960.00 per annum from which I took certain rentals which Lone Star Gas Company receives for certain offices which they lease and which are not used. They are ground floor stores area. Another item which I have included as a general cost is the compensation insurance which the Company would be required to pay on the individual employes in the general office building and some of the field engineers who would be engaged in making a survey, and who subsequently will be discussed in connection with engineer costs. The compensation insurance for men engaged in this class of work is relatively small compared to the compensation insurance for men who are engaged in outside pipe line construction. There are certain expenses in connection with handling the mail and distributing the mail to the various departments which would be located in the building, and I have made what I consider a proper estimate of the handling and distribution of the mail. I have also made an estimate for [fol. 1334] the certification of expenses. In explanation of that allowance, I will state that where money is furnished under a mortgage for improvements of this kind, or construction of this kind, it would be necessary, and the trustees under the mortgage would require that these expenditures be certified to by an engineer of national reputation and by an accounting firm acceptable to the trustees. In other words, the people who furnish the money would want to know that the advances made for the construction from time to time actually represented the money which was put into the property of the Company.

[fol. 1335] Q. And is that the unvarying rule, that such certification is incurred in connection with advances made

for construction purposes where financing has been made by bankers or trust companies or other investors?

A. That is correct, and I think that the same thing would hold true if the funds had been provided by a group of individuals; I think that the executive officers of the company would want that protection and that the people who had furnished the money would require the same.

Q. The next item appearing under Other General Costs appears to be fidelity bonding expense in the amount of \$10,717.00. For what is that expense incurred?

A. That is expense which would be incurred in order to insure the company against fidelity losses, and it would be a blanket policy which would embrace all the company's bonded employes. I have based this estimate upon the charges made for blanket fidelity bonds issued against the type of employes who would be engaged in this work.

Q. Well, by "fidelity bond" do you mean the same kind of bond that the County Clerk and Sheriff of Travis County are required to give for the faithful performance of their duties and the proper handling of all county funds that come into their possession?

A. That is correct.

Q. The Lone Star Gas Company did as of January 1, 1933, and now carries fidelity bonds on all employes engaged in the handling of materials or money?

[fol. 1336]. A. That is correct.

Q. That is not only true of Lone Star Gas Company, but of other organizations, whether they be State, county, city or private corporations?

A. That is correct.

Q. Mr. Connor, have you set forth in detail on pages 226 to 232 your estimate of what you have styled Other General Costs?

A. I have.

Q. And which costs are summarized on page 225 of this exhibit?

A. I have.

Q. What is the next item of general and undistributed costs which you have evaluated and set forth in Volume 7 of Exhibit 28?

A. Engineering costs.

Q. Please relate to the jury in a general way, Mr. Connor, what is designed to be included in your evaluation of engineering costs?

A. Before setting out specifically what is included in that estimate, I will call attention to the fact that the engineering costs as set out in this estimate are divided into two sections, the first being what I have described as General Engineering Costs, the second being the cost of the final engineering records now in possession of Lone Star Gas Company, and when I say "cost" I mean the cost of reproducing the final engineering records now in possession of Lone Star Gas Company. It will be recalled that Mr. Biddison in his discussion or testimony relative to the part of the [fol. 1337] estimate prepared largely by him called attention to the fact that there was included as a part of the direct structural cost a sum of money which represented the cost of reproducing the final engineering records of Lone Star Gas Company. The reason that that division was made in making this estimate was this: Lone Star Gas Company has as of this date and had as of January 1, 1933, certain concrete, specific, real, tangible engineering records which could be inventoried and counted and classified just exactly as Mr. Biddison and Mr. Steinberger inventoried and classified the physical property of the company.

Q. Such as pipe?

A. Pipe, fittings, valves, and anything else. So, with that thought in mind, I thought it was better to treat those records which could be inventoried specifically as an item of cost separate and distinct from the general engineering which can be attributable to the property as a whole and which could not be inventoried and measured because it represented services and expenses which had gone into the construction of the property as a whole, and so with that in mind I divided the engineering costs into two sections. The estimate for the proportionate part of the total which Mr. Biddison used in his part of the appraisal is developed in detail in Volume 7, concerning which I am now testifying.

Q. You first evaluated General Engineering Costs, have you, without reference to the engineering records?

A. That is correct.

[fol. 1338] Q. Well, what do you mean and understand by the term "General Engineering Costs"?

A. This estimate is intended to include the fees and expenses of any consulting engineers, who might be required—and they would be required—in connection with the reproduction of Lone Star Gas Company, the salaries and expenses of the Chief Engineer, Office Engineer, Assistant Engineer, draftsmen, designers, photostat and blueprint operators, clerks and stenographers, from the date of the incorporation of the company until such time as the permanent engineering records in possession of Lone Star Gas Company as of January 1, 1933, would be completed. Now, that statement covers both the general and final engineering records. In addition to that, we have to provide for the cost of all supplies of office men, which, as I have previously testified, has been taken care of in the item of Other General Costs, such as telephones, long distance tolls, telegrams, automobile insurance, bonding expenses on the group of engineers not covered by the previous estimate of bonding expenses, furniture and fixtures, tools and equipment which would be used in the engineering work. All of those are items which have to be taken into consideration and have been taken into consideration in making an estimate of General Engineering Costs. This estimate does not include, however, engineering costs which would be incurred prior to the incorporation of the company: I testified previously that the originators of a project such as Lone Star Gas Company would of necessity be required to have an engineering report before they could proceed. [fol. 1339] This report would be made during the preliminary and organization period and would merely represent an estimate, as I testified previously, of the General Engineering Costs and of the market which could be served by the company. Now, there is no duplication between the inclusion of that expense as a part of the preliminary and organization expenses and the estimate which I have made relative to the General Engineering Costs. There is no inclusion in this estimate of special fees which would be paid for certain structures, such as the building itself, the office building, which would include an architect's fee. I have made no inclusion of that cost nor of certain fees for the design of certain structures, exemplified by the suspension bridges, which expense has been included in Mr. Bidson's estimate.

Q. Now, Mr. Connor, it would appear that the total of your estimate of General Engineering Costs, as summarized on page 233, and the total of your reproduction cost of final engineering records, is approximately one million nine hundred thousand dollars?

A. You mean the sum we paid?

Q. Yes.

A. That is correct.

Q. What would be the sum as applied to the total of the direct structural costs as determined by Mr. Biddison—that is, what would be the percentage relation?—would it be somewhat less than four per cent?

A. I don't recall just at this time what Mr. Biddison's [fol. 1340] final figures were on that.

Q. Approximately fifty million dollars.

A. It would be less than four per cent. That includes final engineering records as well as General Engineering Costs.

Q. Now, Mr. Connor, from your experience as an engineer, what is the usual engineering fee paid to competent engineering firms for general engineering costs and final records in connection with projects of this character?

A. The general fee charged for such work is five per cent of the direct structural cost.

Q. And do engineers and engineering firms who are competent to do work of this character generally expect, demand and receive a fee of at least five per cent covering the direct structural cost of the enterprise?

A. That is correct.

Q. Your evaluation of the General Engineering Costs, including cost of final engineering records, is somewhat less than four per cent?

A. That is correct.

Q. On page 235 of Volume 7 of Defendant's Exhibit 28 have you set forth an estimate organization chart?

A. I have.

Q. Showing the personnel of the men who would be engaged in engineering work?

A. Setting out the men by title as to their respective duties and the relative responsibility of the various groups of men who would be employed in this work.

[fol. 1341] Q. Did the Lone Star Gas Company have as of January 1, 1933, and does it now have an engineering

organization which corresponds in all essential particulars to the organization which you have charted on page 235?

A. That is correct.

Q. I believe you have stated in a general way, Mr. Connor, what would be the work of the Engineering Department in respect of the general engineering. I will ask you if you set forth the organization plan and duties of the section and an analysis of the work done by the several men, commencing at the bottom of page 239 of this exhibit?

A. That is right. I do.

Q. Now, Mr. Connor, in what manner have you proceeded to make an estimate of the General Engineering Costs which would be incurred from year to year during the construction of the Lone Star Gas Company property?

A. The first thing I did was to determine what would be a logical construction program in order to reproduce the property of Lone Star Gas Company; in other words, I took the markets that Lone Star Gas Company now has; I took the gas fields from which Lone Star Gas Company now secures its supply of gas; I determined that amount of construction could reasonably be done within one year, and then I applied this construction to the construction of such lines as a man experienced in the natural gas business would construct during the first year of the reproduction of this property, having in mind that it would be important and [fol. 1342] reasonable to reach the larger markets of the company as quickly as possible.

Q. What do you mean by "larger" or "major" markets of the company?

A. I mean the cities of Dallas, Fort Worth, Wichita Falls, Abilene and Waco. I conferred with the construction organization of Lone Star Gas Company and Mr. Biddison and Mr. Elmer Schmidt, Superintendent of Lone Star Gas Company, and with Mr. F. L. Chase, General Manager of Lone Star Gas Company, and tested my judgment against theirs with reference to what would be a logical program of construction for each of the three years which I have ascribed to the construction program and upon which I base my estimate, and I have set forth on page 246 of this exhibit an outline of the program which, in my opinion, would be constructed during the first year after construction started. On page 340 of Volume 7 of Exhibit 28 I show a map similar to the one shown on page 346.

Q. 246?

A. 246, which outlines the development of the construction program at the end of the second construction year. On page 412 of Volume 7 of Exhibit 28 I show the completed plan, which represents the situation which, in my opinion, would exist at the end of the third construction year. Having then set out the various items of property which would be constructed during each of the construction years, I then went to the Engineering Department of Lone Star Gas Company and made a detailed estimate of the time that [fol. 1343] would be required on the part of computers, inventory men, designers, draftsmen, plotostat operators, and other men who would be employed in the designing of these various items of property, by years. These estimates were made with great detail. The basis for the estimates was the actual performance of men in these departments doing that particular kind of work. Records have been kept of how long it takes a man to do certain classes of drafting; records have been kept of how long it takes a computer or inventory man or a designer to do certain classes of designing. If the Petrolia compressor station appeared in the first year's construction program, a detailed estimate was made of the amount of time which would be required to design that station and prepare the preliminary plans necessary for the construction of the station and to prepare final plans after that station had been completed. That was done with every single item of property in the Lone Star Gas Company system. Now, it was estimated that the engineering work would take four years; six months of it would be in advance of the actual construction period. It is perfectly obvious that plans and designs would have to be made of this property before any orders could be placed for any of the material with which to build it. Therefore, three years of engineering would be concurrent with the construction of the property itself, and there would be a lag of six months after the completion of the property in order that the final engineering checks [fol. 1344] and records might be made complete. Now, that schedule which I have attempted to describe is shown graphically on page 236 of Volume 7 of Exhibit 28, and it is shown that the preliminary engineering would last three years, but that the final engineering and preliminary engineering would coincide only during two years; in other

words, the last year of engineering would be the third year of the final engineering, and the first year of the engineering would be the first year of the preliminary engineering. When I say "preliminary engineering" I mean the engineering which would be required to furnish the information necessary to construct this property and to supervise this construction from an engineering standpoint. The final engineering that I refer to is the information and costs which would be necessary in order to prepare the final engineering records of the company. Now, when it came to the question of the final engineering records of the company, there was something that existed as a matter of record. Those final engineering records were checked in detail, and they are set out in detail in this book, from engineering records which Lone Star Gas Company now has in its possession, and a detailed study was made of the time required to reproduce those records, and the basis for it was the actual time incurred in making engineering and similar records. Now, there is a distinct difference between the preliminary records and the final records. Sometimes the preliminary records and the records necessary for the construction of the property are more elaborate and more in detail than the final records, and in some cases the contrary is true, the final records being more elaborate than the preliminary records. As an example, if I should have here at this time a detail of the final plans of the Joshua compressor station, among the number of sheets of intricate drawings detailing every single item which is in that compressor station drawn to large scale and to small scale, I would have one page which set out a plan of the cottages at the Joshua compressor station. Now, it is probable that the plan of these cottages—there are five of them—would be on a couple of sheets in these final records, because it would merely show the floor plan and front and side elevations of the cottages. Now, the preliminary record of the Joshua station might require a complete set of plans and specifications; and that is true of a great many of the structures and buildings and equipment and so forth of Lone Star Gas Company, that a large amount of detail work and large scale drawings and a number of prints were required for the preliminary engineering and that a lesser amount of detail was required for the final record; but in each case each individual station was studied for the pur-

pose of determining the amount of time required for the design, preparation of the inventory, and every other step which would be involved in preparing the engineering for the company's property.

Q. Mr. Connor, do we find set forth, commencing with page 233 and ending with page 531 of Volume 7 of Defendant's Exhibit 28, your detailed estimates of General Engineering Costs evaluated by you at \$1,127,661.00, and your detail of the reproduction cost of final engineering records at \$765,690.35?

A. I didn't get that page, Mr. Griffith, that you said ends that detailed study.

Q. Page 531—going through page 531, and commencing at page 232.

A. Yes, sir.

Q. Now, as stated in the footnote at the bottom of page 234, the reproduction cost of the final engineering records evaluated by you at \$765,690.35 has been included as a part of the structural costs and is included in Volume 1 of Defendant's Exhibit 28?

A. That is correct.

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[fol. 1347] Q. Mr. Connor, please refer to page 532 of Volume 7 of Defendant's Exhibit 28. What appears on that page?

A. That is a general summary of the estimate of the costs of General Supervision During Construction.

Q. Now, what are these General Supervisions Costs which you have summarized on page 532?

A. They consist of the salaries and expenses of the General Superintendent and his office organization; the expenses of the Superintendent of Plant and Equipment and his organization; and the expenses of the Supervisor of Safety and Medical Examination. These supervisory charges have been segregated from the other supervisory charges for which I have made an estimate. They are general in their nature, and do not permit of allocation to specific property accounts, and for that reason have been treated as general items of supervisory costs. There are certain other supervisory costs, the summary of which is shown on page 537 of Volume 7, Exhibit 28. These supervisory costs can be allocated to specific property accounts; for instance,

the general supervision of construction applicable to pipe lines; the general supervision of construction applicable to compressor stations; the general supervision of construction applicable to telephone lines and equipment; the general supervision of construction applicable to the drilling of wells. Those supervisory costs are capable of being allocated to specific property accounts, and I have, therefore, set them up, and they have been used by Mr. Biddison in connection with his reproduction costs of the physical property of Lone Star Gas Company. They are set out in summary form and in detail in this section of the report of the exhibit; but they are not included in any of the figures which I have used as general and undistributed costs.

Q. Now, several times—in fact, numerous times during the testimony of Mr. Biddison, in his development of unit costs of construction, and in his breakdown of those unit costs, Mr. Biddison made allowances, sometimes expressed as a percentage, covering supervision. Is there any duplication in the unit costs developed by Mr. Biddison, which embraces an allowance for supervision, and the supervision costs which you have set forth commencing at page 532, of Volume 7, of Exhibit 28?

[fol. 1349] A. No; there is not; nor is there any duplication with reference to expenses or costs of supervision set out on page 537, of Volume 7, of Exhibit 28. That is true for this reason: Mr. Biddison, in making his estimate of the direct structural costs of the various items of physical property, included in his inventory, stopped those estimates of cost with what is termed the job foreman. In other words, the foreman directly responsible on the job for the construction of the work was the last individual included by Mr. Biddison in his estimate of direct structural costs. Necessarily, in the construction of a property of this type, and as would be found in the reproduction of the Lone Star Gas Company's property, general supervision would be required. That is, a man of wide experience and training would be in charge of the entire work of constructing the pipe lines. He, in turn, would have to have assistants in his office, for in his office would be kept the records of the progress of the work, and other matters that would require clerical help. In addition to this general superintendent of construction, be it for pipe lines, compressor stations, or telephone lines, division superintendents would be required. These divisional super-

intendents would remain in the field and have responsible charge of certain sections of the work which would be under construction at any given time. Now, Mr. Biddison made no provisions for either the salaries, expenses, or help, or any [fol. 1350] of the costs which would be assignable to those particular men; and it is those men, and their expenses—their traveling expenses, their automobile expenses, their office expenses, such as telephones, telegrams, and so forth, supplies, and stationery, and things of that sort—which I have included in this estimate. As I stated before, having determined those figures for the supervisory costs which could be specifically allocated, Mr. Biddison accepted those estimates and incorporated them into his appraisal of the physical property.

Q. Now, Mr. Connor, this general supervisory organization, the costs of which you have evaluated, was that the type and character of organization which the Lone Star Gas Company actually had when carrying on a considerable amount of construction work?

A. It was.

Q. Comparable in all essential respects to the general supervisory organization which you have outlined, and for which you have made estimates of costs, as set forth in Volume 7 of Exhibit 28?

A. That is true, with this difference: That during the time the Lone Star Gas Company was engaged in a construction program, each of these men who had responsible charge of the construction of those lines was also responsible for the operation of the property. For instance, Mr. Vandercok, Superintendent of pipe line construction. Mr. Van-[fol. 1351] dercook still holds that position in the Lone Star Gas Company's organization, even though there is no pipe line construction under way. It is necessary that he be there, and it will always be necessary for such an individual to be a part of the organization.

Q. He is an actual construction engineer, as well as operating man?

A. Yes; in connection with the pipe line. The same is true with Mr. Rogers, in connection with the compressor stations of the Company. Yet, if the property were in construction only, and not in operation as well, these men would be required just as truly, and all of their time would be required for the supervision of construction.

Q. What is included under your description of Safety and Medical Department work, or Department of Safety and Medical Examination?

A. That is a division of the Company's organization which functions for the purpose of reducing casualties and accidents; and is also responsible for the selection of men who are sound in body. Such an organization would be essential in the reproduction of the Lone Star Gas Company, and such an organization is actually maintained by the Lone Star Gas Company.

Q. At this time?

A. At this time, yes.

Q. And has been maintained for a number of years?

[fol. 1352] A. That is correct.

Q. Now, Mr. Connor, do we find set forth at pages 532 to 574 a complete detail of your evaluation of the general supervision costs which are either allocated to the physical property in connection with the direct costs, or which continue to exist in the appraisal as undistributed general costs?

A. That is correct. The report from page 532 to and including page 574 sets out every detail necessary in order to determine each step that I have taken in making this estimate. The responsibility of each man is clearly set out; the number of men that would be required is clearly set out; and the incidental expenses in connection with their work are also clearly set out.

Q. Now, Mr. Connor, throughout your development of the undistributed and general costs in connection with Volume 7 of Defendant's Exhibit 28, and also in reference to Preliminary and Organization Expense therein set out, you have used certain allowances for salaries and wages for particular individuals performing particular work?

A. That is correct.

Q. And have you endeavored to use salaries and wages paid by the Lone Star Gas Company as of January 1, 1933, or as of the present time, or as of any recent period?

A. In a great many cases—I would say in most cases, the wages and salaries which have been assigned to the various [fol. 1353] individuals included in the estimate are the actual salaries and wages which Lone Star Gas Company has been and is now paying its regularly employed men. In some cases I have given consideration to the fact that the men who would be engaged in this work of reproducing this property

would only be employed temporarily and would not be permanently employed. I have also given consideration throughout to the tremendous responsibility which would be imposed on certain individuals during a three or a three and a half year program which involved the expenditure of approximately sixty or sixty-five million dollars.

Q. And to that extent has there been some departure from salaries actually paid?

A. That is correct. Now, in connection with a number of the estimates of the time required to do certain things, particularly in connection with the estimate of the time required to prepare engineering records, make designs, and make computations, no consideration has been given, and of course, no consideration could have been given at the time the estimate was prepared to the effect to the Lone Star Gas Company's compliance with the terms of the National Recovery Act.

Q. Mr. Connor, please refer to Volume 8, of Exhibit 28. Prior to page 1 in that volume there appears a heading: "The Relation Between Interest and Taxes During Construction and Fixed Charges on Inactive Plant (In Operation) During the Construction and Development Periods." What do you mean and intend and understand by that phrasing?

A. I mean by that, that there is a close definite relation between the capital costs of interest during construction and the capital cost of taxes during construction, and the capital cost represented by fixed charges on a property which passes from what is called "construction" into "operation," and at which time the proportionate part of the plant which would actually be operated will be relatively small to that portion of the plant which will ultimately be operated. I have set out on pages 1 to 15, inclusive, a discussion of that relation, in order that the subsequent sections of the estimate may be more readily understood.

Q. Mr. Connor, take a private structure, such as a building, or any construction project which would be built over a three-year period, would taxes paid to city, county, and state authorities on that building during the course of construction, and would interest paid on the money invested or used up or expended for labor and materials during the period of construction, be a proper part of the ultimate cost of that structure?

A. That is true; they would. Those expenditures are recognized as part of the costs of constructing the particular property under consideration; and that is true of interest during construction, whether that interest cost represents an out-of-pocket expenditure on the part of the one constructing [fol. 1355] the property, or whether it represents a deprivation of earnings on the money of the builder tied up in the construction and for the construction period.

Q. At pages 16, 17, and 18, of Volume 8, Defendant's Exhibit 28, have you set forth a map showing the development of the construction work at the end of each of the three construction years?

A. I do.

Q. And are these the same maps, Mr. Connor, which are set forth in connection with your undistributed general costs estimates in Volume 7 of Exhibit 28?

A. They are identical. They are repeated—are included, rather, in this volume, for the reason that they give the basis for the determination which I have made of the money which would be expended during each of the construction periods. I think I stated early in my testimony that it would be necessary in order to make a rational estimate of what the cost of interest and taxes during construction would be to make a determination of when and in what amount money for construction and other costs would be required. That was the reason, in the development of the general and undistributed costs, I divided those costs into annual expenditures, so that, in addition to the costs of the physical property which would be involved in any one construction year, I would also have a definite idea as to how much money would be required each year for the general and undistributed costs. Now, the construction involved in each of the years shown by the three maps on pages 16, 17, and 18, of Volume 8, Exhibit 28, reflects certain items of property for which Mr. Biddison made estimates of costs in his portion of this reproduction cost estimate. Now, in order to ascertain just how much money would be spent during the first construction year, I have analyzed in detail the items included in the maps showing each construction year, and have determined from that analysis the amount of money which Mr. Biddison estimates those particular items would cost. I also went a step further, and in addition to making an estimate of what monies would be required for the work which would be done in each of the

construction years, as well as the six months period prior to construction, I made a classification of these expenditures by investment accounts, for the purpose of making an estimate of taxes during construction, because taxes will be levied on property in a manner somewhat different from the way in which interest will accrue on expenditures. Interest will accrue on money tied up in every phase of the construction, whether it be general undistributed charges or direct structural charges; but in the case of taxes, which would accrue during the construction period, taxes would be largely confined to the physical property, as distinguished from the general and undistributed charges.

Q. Have you set forth, Mr. Connor, at pages 28 to 51, in [fol. 1357] clusive, a detail of the reproduction costs by construction periods covering transmission, tap, and gathering lines, and compressor stations?

A. I have, for each year of the first, second, and third construction years. If the exhibit is examined, it will be found that the line designations used by Mr. Biddison, which are reflected by the construction work indicated by the maps on pages 16, 17, and 18,—that the actual cost of those items as reflected by Mr. Biddison's exhibit is set out in detail.

Q. Referring specifically to the map on page 16, Mr. Connor, do we find that Line B, extending from Petrolia to the northern part of the City of Fort Worth, is shown to have been constructed during your first construction year?

A. Yes; Line B is.

Q. And if we refer to page 33, of Volume 8, Defendant's Exhibit 28, do you show the total costs of construction of that line, as far as direct structural costs are concerned, in the amount of \$1,366,347.97?

A. The total shown on my copy is \$1,381,217.39.

Q. At what page, Mr. Connor?

A. Page 33—Line B and B taps.

Q. Line B and B taps; but Line B proper is shown to be \$1,366,347.97.

A. No; I think that would include certain taps, and would be what we call the B System as distinguished from Line B. [fol. 1358] Q. But all of which would be constructed in the first construction year?

A. Yes, sir; or at least that portion of such tap lines as I have set out would be constructed are included in that figure. If you will notice, Mr. Griffith, as the pages progress

from 16 to 18, that the number of taps which are constructed on Line B increase from year to year. In other words, it is not contemplated that all of the towns on Line B would be connected at the end of the first construction year; but with that modification, what you say is correct.

Q. On page 24, of Volume 8, Exhibit 28, do you show a schedule of Distribution of Expenditures by Periods?

A. That is correct. That schedule, which extends from page 24 to and including page 27, accounts for the expenditures I have included in the Direct Structural costs, General and Undistributed Costs, Taxes During Construction, for each of the construction periods which I have used—that is, the pre-construction period, the first construction year, the second construction year, and the third construction year. Pages 24 and 25 take into consideration the Direct Structural Costs; for instance, on page 24, is shown that the Transmission System, the direct Structural Costs of which were estimated by Mr. Biddison to be \$34,096,799.00, are distributed as follows: The first construction year, \$13,436,305; the second construction year, \$13,690,145; the third construction year, \$6,970,349.00. Now, if those yearly [fol. 1359] amounts were checked back against the lines shown to be constructed in each of the three years, it would be found that they would check exactly with Mr. Biddison's estimate for the cost of reproducing those lines. Now, certain items have been assigned to the pre-construction period.

[fol. 1360] Q. That is, before there was any construction work actually started?

A. That is correct. I have taken a part of the gas reserves as shown on page 25. The gas reserves are shown as \$2,681,689.00. I show that half of those gas reserves would be acquired prior to or during the pre-construction period; and that is explained by the testimony which I have previously given, that the men who originated this project would be required to show in hand at least one-half of the gas reserves of Lone Star Gas Company at the incorporation of the Company. The balance of the gas reserves, I have estimated, would be acquired uniformly during each of the three succeeding years. All of the items which I estimate as part of the preliminary and organization expenses of the Company are ascribed to the pre-construction period, because all of those expenditures would be made

prior to the incorporation of the Company. The Administrative and Legal Expenses, which I have explained this morning, Executive Section, Legal Section, Accounting Section, Treasury Section, Land Section, Geological Section, Purchasing Section, are placed in their respective year in the amount previously determined in Volume 7 of Exhibit 28; and we now reach the point in my exhibit which indicates the necessity for having made that breakdown of [fol. 1361] expenditure by years in each of those administrative groups. The engineering cost by years was based upon the actual estimate of the engineering work which would be required by reason of the program set out each year on the maps which I have previously discussed. Now, the question of Taxes during Construction and the question of Interest during Construction require a certain step which is not disclosed by the tabulation shown on pages 24 to 27, inclusive, but is described fully, beginning on page 19.

Q. Please proceed with that development of your construction expenditures by years to the determination of Taxes during Construction and Interest during Construction.

A. Page 21, Volume 8, Exhibit 28, shows under the heading Taxes during Construction, that the taxable expenditures by years were \$3,049,057.00 during the pre-construction period, or prior to the pre-construction period, a substantial proportion of that figure being the cost of Leaseholds Developed and Undeveloped, of \$20,519,270.00 for the first construction year, \$17,485,239.00 for the second construction year, and \$9,128,368.00 for the third construction year,—showing a total of \$50,181,934.00. Now, those are the items or amounts of property which I have used in the estimate of Taxes during Construction. They represent [fol. 1362] the outlay for physical property, as distinguished from Expenditures for General and Undistributed Costs. Now, when you make the calculation of what your interest costs will be during the construction of this property, all expenditures are necessarily included, and that means that the General and Undistributed Costs, which I have allocated to each year, must be added to the physical costs which are subject to taxation during construction. That is shown on page 22 of Volume 8 of Exhibit 28, and the total is \$59,512,984.00.

Q. Did you then make calculations of the amount of property that would pass from construction, or being completed,

as far as construction is concerned, would pass into service at the end of the first and second construction years?

A. That is true. I first wanted to determine what proportionate part of the expenditure during the pre-construction period should be allocated to the property passing into service at the end of each construction year, and I made a calculation which gave me the ratio of the property cost for each construction year, to the total property constructed in the three construction years, and having determined the ratio of the total property which was constructed in each of the construction periods, I applied that ratio to the total expenditures in the pre-construction period and thereby de-[fol. 1363] termined the amount of expenditures in the pre-construction period which would be attributable to the first construction year, the second construction year, and the third construction year.

Q. Showing what percentages for the respective years?

A. 43.09 per cent for the first year; 36.73 for the second year; and 20.18 per cent for the third year. Now, those percentages would then apply to the \$6,895,832.00 which represented the pre-construction costs, and the resultant sum then added to the actual construction costs and general undistributed costs incurred during each of the construction years.

Q. Now, Mr. Connor, the matter of these percentages is, of course, difficult to follow.

A. That is correct.

Q. But may we do this as illustrative of your method—let's assume a property that was going to be built over a period of three actual construction years, and all of the work was going to be done within those three years, that would involve any preliminary work, as well as post-construction work, and the property was to cost \$60,000,000.00, and \$20,000,000.00 would be expended in each of the three years. Would it then be true that you would have a percentage relationship of $33\frac{1}{3}$ per cent for each of the three years?

A. That is correct. Now, the reason that I took the step [fol. 1364] which I have attempted to explain, is that at the end of the first construction year I estimated that all of the property which was constructed during the first construction year will cease to be property under construction, but will pass into operation. Now, some part—some propor-

tionate part of the money which is expended in the preliminary development period will be attributable to that part of the property; in other words, that part of the property which goes into operation at the end of the first construction year should carry with it into operation some proportionate part of the expenditures made prior to the beginning of construction, and it was this determination which I have made and which I have attempted to explain.

Q. That, then, Mr. Connor, constituted the basis for your determination of taxes during construction and interest during construction, in so far as the percentage relationship was concerned to the amount of expenditures in the total of the years?

A. That is correct; except that in the matter of taxes during construction it was not necessary to make any such calculation, for the reason that a substantial part of the expenditures made prior to the beginning of construction would not be property and generally considered subject to taxation.

Q. Now, Mr. Connor, did you use any factual basis for [fol. 1365] the determination of taxes during construction?

A. I first made a determination of the actual ad valorem taxes which Lone Star Gas Company had paid during the year 1932. Now, such taxes as would be incurred in the reproduction of Lone Star Gas Company would include all State, County, Township, City, School, Road, Annual Franchise Tax, and all other taxes that would be levied and paid on the property of the Company during construction; except special benefit assessments and such taxes as would grow out of the operation of the property.

Q. By "taxes growing out of the operation of the property" do you refer to gross receipts taxes—

A. Gross receipts taxes.

Q. Or gross production taxes.

A. That is right. Of course, the property under construction would have no gross receipts, nor would it have to pay gross production taxes on gas that was not delivered. Lone Star Gas Company paid or accrued in the year 1932, \$299,676.00 of ad valorem taxes; it paid corporation license fees of \$3,395.00 in the State of Oklahoma, and franchise taxes of \$17,784.00 in the State of Texas. These amounts, as I have stated before, include the ad valorem taxes and the license fees and franchise taxes paid altogether by Lone Star Gas Company. Now, Lone Star Gas Company—

Q. That totals what amount?

[fol. 1366] A. Well, I haven't the total of it, Mr. Griffith. It totals something in excess of \$320,000.00. Now, Lone Star Gas Company owns and operates certain items of physical property which may not be defined as public service property, and for that reason the taxes paid—the proportionate part of total taxes paid by Lone Star Gas Company on the property which is not public service property should not be included in this estimate. I made a study of the proportionate part of the property of Lone Star Gas Company representing non-public service property to the property included in the inventory, and it was found that of the property included in the inventory, that that property was 96.4 per cent of the total property, or that the taxes which Lone Star Gas Company paid or accrued, attributable to public service property, was 96.4 per cent of the amounts which I have heretofore set out. I then applied that 96.4 per cent to the taxes actually paid for the specific purposes that I have enumerated, and found that the ad valorem taxes were then \$288,888.00, franchise taxes paid, Texas, \$17,144.00; corporation license fees, Oklahoma, \$3,273.00, or a total of \$309,305.00. Now, included in this tax payment is \$6,851.00 for taxes on the general office structure, \$288.00 for taxes on other land owned and used by the Company in connection with its general office structure, and on the furniture and fixtures of the [fol. 1367] Company, \$346.00. Now, these items of expense—these taxes I have just mentioned, have already been included in Volume 7, as part of Other General Costs.

Q. In other words, they were a part of the cost of the operation of the office building?

A. That is correct, and they have already been included in this estimate. So it is proper, then, to deduct from \$309,305.00 the sum of \$7485.00, which is the sum of the three items which I have just explained, which leaves a total of \$301,820.00 as the annual tax factor which I have used in the calculation of taxes during construction.

Q. Now, Mr. Connor, having determined that \$301,820.00 was the proper annual taxes which the Company had been paying in connection with its public service property, exclusive of the general office structure and the land on which it is located, and the adjoining land, and also furniture and fixtures—how did you proceed to make your estimate of taxes during construction?

A. There were four factors to which I gave consideration, one of which I have just explained, and that is the total taxes attributable to the property which have been paid on the completed plant at this time, which are, of course, the taxes now paid by Lone Star Gas Company; the second item is the rate at which the property subject to taxation [fol. 1368] would be constructed; the third item is the date at which the construction is estimated to have been started; the fourth item is the rate at which the property subject to taxation in construction would pass into service during the construction period.

Q. You are referring now to Defendant's Exhibit 36, Mr. Connor?

A. That is correct. It will be noted that on the top of each of the stairstep lines, which correspond to the fourth year and the fifth year and the sixth year, that 43.31 per cent of the plant is estimated to have passed into service; and, of course, no taxes during construction would accrue on that part of the property which has passed into service.

Q. That is, taxes which would be a proper capital item?

A. As taxes during construction.

Q. Yes, sir. The taxes would be paid, but on the portion that had passed into service that would be a charge against the operations?

A. That is correct. No, sir; I don't think so, altogether. It will be noted at the fifth year that 79.96 per cent of the plant is estimated to have passed into service, and that at [fol. 1369] the sixth year 100 per cent. Well, now, that fourth, fifth, and sixth years there correspond to the second and third construction years—that is, the fourth and fifth years. So it will be noted that I have estimated that a very substantial part of this property, as it is being built, will go into operation or into service, and taxes during construction will then cease on that proportionate part of the total reproduction cost which has passed into service. I have already explained how I arrived at the taxes actually paid by Lone Star Gas Company, in the sum of \$301,820.00. I have also explained how the physical property would be constructed, and how the many expenditures would be made during the pre-construction and first construction, second construction, and third construction years.

If reference is made to page 55, Volume 8, Exhibit 28, it will be noted that of the expenditures subject to taxation, 6.08 per cent are attributable to the pre-construction year, 40.89 per cent to the first construction year, and 34.84 per cent to the second construction year, and 18.89 per cent to the third construction year.

Q. 18.19, isn't it?

A. 18.19 to the third construction year. Now, I have estimated that this property will be started in the middle of the year. It would be possible by juggling the time you [fol. 1370] have assumed to have started this plant to materially affect what the taxes during construction would be. I have taken what I think is the fair and reasonable position, and that is that the property would be started in the middle of the year.

Q. By "the middle of the year", do you mean July 1st, Mr. Connor?

A. That is correct. On page 57 there is shown the method by which I finally made my calculation of taxes during construction. The pre-construction period, which I assume to last six months, is begun on January 1st, bringing the beginning of construction up to July 1st. Now, the property which would be subject to taxation as of July 1st, which would be the beginning of the first construction year, has been estimated to be \$3,049,057.00; during the first year physical property to the extent of \$20,519,270.00 would be constructed, bringing the total expenditures, including the pre-construction expenditures to \$23,568,327.00. From that I deduct one-half of the expenditures for the first construction year, for the reason that those expenditures will be made subsequent to January 1st of the first construction year.

[fol. 1371] Q. And, of course, the property is taxable as of January first?

A. That is correct. That leaves the amount taxable as of January first, which would be in the middle of the first construction year, of \$13,308,692.00, or 26.52 per cent of the total taxable property. Now, the steps which follow are similar, with this difference: Consideration is given during the next period to the amount of property which passed from construction to operation. We found that the taxable expenditures in the pre-construction period were \$3,049,057.00. The taxable expenditures for the first construction year were found to be \$20,519,270.00, and for the second

construction year \$17,485,239.00, or a total of \$41,053,566.00. Now, from that should be deducted, for the reasons previously explained, one-half of the expenditures during that period of construction year, because, just as in the previous year, January first would come in the middle of the construction period. Now, of that property, \$23,568,327.00 worth is estimated to have passed into operation. Therefore, it must be added to the eight million plus which I have just mentioned, making \$32,310,947.00, which, deducted from \$41,053,566.00, leaves \$8,742,619.00 as representing the reproduction cost of the property subject to taxation during the second construction year, and that represents 17.42 per cent of the total taxable property. The steps which follow simply determine the percentage of the total taxable property which will be under construction during each of the years of the construction period. The total of those percentages is then applied to \$301,820.00, which is the taxes [fol. 1372] actually paid by Lone Star Gas Company on one hundred per cent of its property in order to make an estimate of what the taxes during construction would be. The first construction year percentage was 26.52 which, applied to the amount actually paid by Lone Star Gas Company, would result in \$80,042.00. The percentage for the second construction year was 17.42 per cent, which, applied to \$301,820.00, resulted in an estimated cost of taxes of \$52,577.00. The percentage for the third construction year was 9.10 per cent, which, applied to \$301,820.00, resulted in \$27,466.00. The estimated tax during construction which would accrue and would be paid subsequent to the completion of construction is 4.55 per cent, which, applied to \$301,820.00, resulted in \$13,733.00. The sum of those figures is \$173,818.00, which is my estimate of what taxes—ad valorem, franchise, and corporation license fees—would be paid by Lone Star Gas Company if the property should be reproduced as of January 1st, 1933.

Q. And if we look at page 71 of Volume 7 of Exhibit 28, Mr. Connor, do we find that you have carried over in the general summary of the undistributed general cost the amount so determined for taxes during construction of \$173,818.00?

A. That is correct. Now, it will be noted that I have made an estimate of what those taxes would be during each of the construction years. Now, the reason for that is that it would be necessary, just as it was necessary to find out

how much money you spent for everything else during each of the years, in order that you might make an estimate [fol. 1373] of the sum of money upon which interest during construction would accrue, because you would have to pay or you would be out of pocket the interest, of course, on the money which you paid for your taxes attributable to construction.

Q. And does the item of interest during construction, evaluated by you at \$4,975,933.00, appear as the last item under Undistributed General Cost on page 71 of Volume 7 of Defendant's Exhibit 28?

A. That is correct. That is substantially the largest item included under the heading Undistributed General Cost.

Q. Mr. Connor, as used in your estimate, what do you mean, intend and understand by the term "interest during construction"?

A. As used in this estimate of the reproduction cost of the property and business of Lone Star Gas Company, interest during construction is intended to cover the cost of interest on all expenditures which would be made in connection with the reproduction of the corporate entity and the physical property, together with the expenditures for Undistributed General Cost from the date of the incorporation of the company until such time as the property items represented by these expenditures would pass from construction into operation.

Q. Is that the generally accepted engineering and accounting definition for "interest during construction"?

A. It conforms in every particular to the generally accepted definition of that term. The generally accepted definition of the capital item "interest during construction" [fol. 1374] is set out in the classification of investment in road equipment on some roads prescribed by the Interstate Commerce Commission. This definition has been followed in practically all uniform classifications of accounts prescribed by regularly bodies.

Q. Now, what were the factors which you took into consideration, Mr. Connor, in the determination of your estimate of interest during construction?

A. The first factor is, of course, the factor of time—that is, the time assigned to the pre-construction, the construction, and post-construction periods, because, of course, interest is controlled both by the rate and by the time at which the money draws or is deprived of the use of in-

terest. The second factor after time is the rate of interest itself, and it would be necessary in order to make this estimate to first develop the period of time; second, the rate of interest which would be fair and reasonable in the premises. The third item is the requirement which would be made of the people who are using the money with reference to the manner in which the money would be advanced at stated intervals.

Q. You said "the people using the money". Did you mean the people lending the money? That is apparently [fol. 1375] my error, Mr. Connor. That is, the requirements of the users of the money by the people who were advancing the money?

A. Yes, sir; that is correct. My answer was correct, but it was somewhat awkward; but that is the purpose and intent of my answer—that is, requirements imposed by the people who would furnish the money as to the manner and rate at which the money must be taken by the people using it. The fourth item would be the amount which would be allowed on the unexpended balances.

Q. That is what we commonly know as interest on bank balances?

A. That is correct.

Q. Is that somewhat rare today, Mr. Connor?

A. Yes. The fifth item is the time at which expenditures would be made from the date of incorporation until such time as the expenditures would not be attributable to construction, but would be passed from construction into operation. That statement and the necessity for knowing the things set out in the statement is the reason for the great care and the large amount of work which I did in order to determine the amount of money which would be expended during certain periods of time and also the amount of property which would pass from construction into operation.

Q. And were you also concerned with the period when the property represented by those funds had passed from construction into operation?

A. That is correct.

[fol. 1376] Q. According to service?

A. Yes, sir, because immediately a piece of property passed from construction into operation the capital charge interest during construction ceases.

Q. Now, Mr. Connor, will you please state the respective considerations which you gave to those several factors in determining your estimate of interest during construction?

A. I have previously stated that the time at which interest during construction would accrue would be during the pre-construction period, the first construction year, the second construction year, and the third construction year. I have made no attempt to estimate the interest during construction which might be accrued during the post-construction period, for I assumed—and I think my assumption is exactly in line with what would happen—that the money required for post-construction expenditures would be secured during the third construction year.

Q. Now, you have assumed a three year period of construction?

A. That is correct.

Q. In the computation of your interest during construction, in the computation of Other General and Undistributed Costs, and particularly in connection with the determination of the amount of interest during construction?

A. That is correct.

Q. Would any variation of the construction period also serve to vary, either to lessen or increase, the amount of estimated interest during construction?

[fol. 1377] A. Yes.

Q. Have you ever seen any true reproduction cost appraisal, Mr. Connor, which does other than assume some fixed and definite wholesale construction period for that reproduction of property?

A. No, I have not.

Q. Mr. Connor, as engineers understand the term, does the term "estimate of reproduction cost" mean the use of a definite or fixed wholesale construction period?

A. That is my understanding of the intent and meaning of the term "reproduction cost new", and I believe that it conforms with the rule usually, if not always, used by engineers in making such an estimate. The result of using some different method can readily be understood by a simple illustration: Let us assume that we were going to make a reproduction cost estimate of the property of the Austin Gas Company. I think that an engineer would come in and reasonably estimate how long it would take to build the

Austin Gas Company, which would probably be a year and a half, or something of that sort. Now, the Austin Gas Company was actually built by little additions to its property very largely; in other words, I would say that, on the [fol. 1378] average, the length of time required in the actual historical building up of this property, to build any one of those items, would be probably two or three days. Then we would be confronted, if we took that avenue of approach to the problem of assuming a construction period of two or three days to build the Austin Gas plant, I think that it does not conform to or conform with what is intended by the term "reproduction new".

Q. Mr. Connor, you have described the six factors which you took into consideration in the computation of your estimate of interest during construction, and the first was the time assigned to the pre-construction, the construction, and post-construction periods?

A. That is correct.

Q. Now, what did you ascribe to the pre-construction, the construction, and the post-construction periods?

A. I assigned six months to the pre-construction period, three years to the construction period, and six months to the post-construction period.

Q. Well, that is in exact accord with your determination of general undistributed costs?

A. Yes, sir; that is correct. But in my estimate of interest during construction I did not give consideration to any interest that might accrue on expenditures made in the [fol. 1379] post-construction period. I simply included those expenditures in the money requirements for the third construction year.

Q. In connection with the second factor—that is, the interest rate to be paid—I will ask you if there has not been a considerable variation of interest rates over the period of the last five years?

A. That is true. The cost of money to natural gas companies has changed considerably in the last five years.

Q. Has the trend of money been upward or downward within the last five year period?

A. The trend of money—the trend of the cost of money for a project such as the reproduction of Lone Star Gas Company has been definitely upward.

Q. Did you give consideration to the actual conditions prevailing as of January 1, 1933, on interest rates for

money for natural gas plant construction in your adoption of the interest rate used?

A. I gave only a limited consideration to that factor. I believe that in reproduction cost estimates the cost of material prevailing at the time of the inquiry and for a reasonable period of time in the future, if such cost can be properly estimated, should be the determining factor in estimating the cost of reproducing physical property. If that is the proper rule—and I think it is generally conceded that it is the proper rule—it would seem that the cost of money at the time of the inquiry for the purpose for [fol. 1380] which this money would be used in reproducing the property under consideration should be given equal weight. I have not done so, however.

Q. Had you done so, what would have been the effect upon the rate of interest ultimately adopted by you for the computation of interest during construction?

A. It would have been higher than that which I have used.

Q. Did you give consideration to the financial structure of the company as estimated by you in your study, that fifty per cent of the money would be raised by first mortgage bond sales, twenty-five per cent by preferred stock sales, and the balance of the money to be raised by common stock sales?

A. I did give consideration to that financial structure, and for the reason that I believe that such a financial structure as you have just outlined would result in getting money at the lowest possible interest rates.

[fol. 1381] Q. Now, any other financial structure would have, in your opinion, served to have increased the cost of money to the company?

A. That is correct.

Q. At the top of page 66 of Volume 8 of Exhibit 28, do you set forth the costs of money to the company for the various types of security issued?

A. That is correct, I do. Now, in estimating the cost of interest to the company, I have taken into consideration, and I think properly so, the amount which the company would secure from the sale of these securities. In other words, the discount which necessarily would be applied to the securities when issued. Now, in estimating the cost of financing, I think any consideration of that factor would have been improper, but in determining the interest rate

which you would have to pay for your money actually, you must take into account what you received on the face value of the security issued. If you issue a security which has a par value of \$100.00 and the coupon rate on that security is six and one-half per cent, and of necessity you must sell that security at \$90, then you will not be paying 6½ per cent for that money, but you are paying 7.22 per cent for that money.

Q. And may it properly be said that the discount is a function of the interest rate paid by the company?

A. To a large extent that is true.

Q. By determining the net cost of money to the company as applied to the sale of first mortgage bonds, preferred [fol. 1382] stock and common stock, did you finally determine that that net cost would be at the rate of 8.33 per cent per annum?

A. I did, and that is shown in the tabulation at the top of page 66, Volume 8, Exhibit 28.

Q. Did you adopt that for the computation of your interest during construction?

A. No, I used a flat rate of eight per cent per annum.

Q. Or .33 per cent less than the computed rate?

A. That is correct.

Q. Do you believe, Mr. Connor, that as of the date of this evaluation, that is January 1, 1933, or now, it would be possible to secure money for a new natural gas construction project at a figure of less than eight per cent per annum?

A. I do not believe the money could be secured at any less than that figure.

Q. And that holds true as of today?

A. That is correct.

Q. Now, in taking into consideration the several factors which entered into your computation of interest during construction, you mentioned the requirements of fiscal agents, or the underwriters of the financing. What would be the general nature of those requirements, which would impose a financial burden upon the company?

A. I think it would be a stipulation of the fiscal agents that the company assume the obligation of the entire issue at the time that the first money was required. However, I have not based my calculations upon this assumption, but [fol. 1383] I have estimated that the money requirements for any period which I have set out—that is, for one year—would be required for that entire time by the fiscal agents.

In other words, the company would be required to assume the obligation to take the amount of money which would be required for a one year construction period.

Q. In other words, say at the beginning of the construction year, if the company needed \$20,000,000.00 for the ensuing year of construction, it would have to obligate itself to take that money and pay interest thereon from the commencement of the construction period, even though some of the money would not be used until the latter part of the construction year?

A. That is correct, and it would also be necessary that the provision for the entire amount be definitely arranged for prior to the beginning of construction, for the reason that an enterprise of this character, incomplete, would not be worth what it cost to build that much property. In other words, the people who would put money into a natural gas proposition of this kind, would want to know before it was started that the funds were on hand with which to finish it.

Q. In other words, to complete the entire plant?

A. That is correct.

Q. You say that you also gave consideration to interest on unexpended bank balances. Would that serve to reduce the interest rate paid?

A. It would.

Q. What consideration did you give to unexpended bank [fol. 1384] balances, and how would that affect the interest rate paid?

A. I estimated that seventy-five per cent of the total sum advanced at the beginning of any construction period would remain as an unexpended balance for three months; that fifty per cent would remain as an unexpended balance for three months and that twenty-five per cent would remain as an unexpended balance for three months. I have further estimated that interest would be earned at the rate of two per cent per annum on the amounts represented by these unexpended balances, and that such interest as would accrue from this source would be credited to the cost of interest during construction.

Q. And if the entire sum of money procured at the commencement of the construction period were carried in the bank balances upon which two per cent interest would be paid, the net cost of that money would be only six per cent per annum rather than eight per cent per annum?

A. During that particular period, for that particular proportionate part of the money.

Q. Now were there any exceptions, Mr. Connor, in your computation of the interest on unexpended bank balances, to the method which you have outlined?

A. Yes, one exception—and that is, for the money advanced during what I have termed the pre-construction period, because most of the expenditures which I have estimated would be incurred by the company during the pre-construction period were really expenditures made during the preliminary development and organization period, and [fol. 1385] therefore the company when it was organized would be required to immediately liquidate the cost of those expenditures, and in the amounts represented by the estimate of preliminary and organization expenses, and for that reason there would be no credit balances during the pre-construction period.

Q. Now what did you do with reference to the computation of interest during construction on those construction expenditures which were incurred in what might be called the post-construction period?

A. I included those expenditures, as I have stated before, in the expenditures for the last construction year.

Q. Now, Mr. Connor, with these factors in mind, how did you go about the method of the calculation of interest during construction?

A. The total sum upon which I estimated that interest during construction would accrue has been shown to be \$59,512,984.00. This sum of money is divided by periods as follows: Pre-construction period, \$6,895,832.00. Construction period, first year, \$22,673,380.00. Construction period, second year, \$19,326,719.00. Construction period, third year, \$10,617,053.00. Now, if we take the expenditures made in the pre-construction period, and allocate them to the various construction years in proportion to the ratio of the expenditures for each construction year, to the total expenditures, we would find of the \$6,895,832.00 which covers the expenditures during the pre-construction period, that \$2,971,414.00 would be allocated to the first construction year; \$2,532,839.00 to the second construction year, and \$1,391,579.00 to the third construction year. Now, the purpose of making those allocations is simply this: That *in* want to know the total over-all cost of the

property which passes into operation at the end of the first, second and third construction years, and I therefore want to know what portion or proportionate part of the preliminary and organization expense should be attributable to the property passing into operation at the end of each of those years. The calculation of interest during construction is as follows:

For the pre-construction period, which is six months, there is \$6,895,832.00 at eight percent for six months, or \$275,833.00. For the first year, we have \$6,895,832.00 which has previously been explained, plus the expenditures for the first year, which is \$22,673,380.00 or \$29,569,212.00. That sum of \$29,569,212.00 which is the sum of the expenditures for the pre-construction period and the first construction year, at eight percent for one year is \$2,365,537.00. If we assume that there is a credit balance of 75 percent of this amount on hand for three months, and we credit the interest during construction charge with two percent on this money for this period, we have a credit of \$110,885.00 for this item; and if we assume there is a credit balance of 50 percent of the \$29,569,212.00 for the three months at two percent, we have a further credit of \$73,923.00; and for the 25 percent, at two percent, for a three months period, we have still a further credit in the amount of \$36,962.00 [fol. 1387] or a total credit of the sum of \$221,770.00.

Q. Now, that represents the interest earned on unexpended bank balances?

A. That is correct, and that leaves a total net interest charge for the first construction year on the funds which would be required during the first construction year, plus the funds which had been previously expended, of \$2,143,767.00.

Q. Now, in a similar manner, Mr. Connor, on page 69 of Volume 8 of Defendant's Exhibit 28, did you make a calculation of the net amount of interest during construction covering the second construction year and the third construction year?

A. Yes, with this difference: I made an allowance, or rather, a deduction for the value or the reproduction cost, rather, of the property constructed during the first construction year, plus the proportionate amount of the moneys expended during the preconstruction period, which amounted to \$25,644,794.00 and which represented that

proportion of the total reproduction cost of the physical property, plus the general undistributed overheads and taxes, which I estimate would pass into operation from construction at the end of the first construction year. The total expenditures up to and including the second construction year are estimated to be \$48,895,931.00, but as I stated before, the \$25,644,794.00 which represents the reproduction cost of the property which would pass out of construction at the end of the first construction year, leaves a balance of \$23,251,137.00, and on that basis, I have proceeded with the calculation exactly like the one which I made for the [fol. 1388] first construction year: That is, I multiplied that net amount of \$23,251,137.00 by eight percent for one year, which resulted in an interest charge of \$1,860,091.00. I then credited that total charge with two percent on the unexpended balances, determined in exactly the same way as I made the determination for the first construction year, which resulted in a credit of \$174,384.00, and leaving a net charge for the second construction year, to interest during construction, of \$1,685,707.00.

Q. Now, Mr. Connor, in a substantially similar manner did you compute the interest during construction for the construction period represented by the third year?

A. I did. And I found by following the same method—that is, deducting the property which passed into operation at the end of the first construction year, together with the property which passed into operation at the end of the second construction year, and similarly arriving at a credit to interest during construction by reason of two percent on unexpended balances, and I found the interest during construction charge for the third construction year to be \$870,626.00.

Q. Mr. Connor, do we find a complete detail of your calculations of interest during construction and the basis upon which they are made, commencing at page 62 of Volume 8, Defendant's Exhibit 28, and going through page 69 thereof?

A. That is correct, and on page 70 of the same volume of the same Exhibit I show graphically the manner in which—or rather not the manner, but I show graphically the [fol. 1389] total expenditures for each year of the three and one-half years, which are attributed to the charge of interest during construction.

Q. Now, Mr. Connor, you have been compelled to use various percentages in the determination of interest during construction and taxes during construction, in the estimates which you have made and set forth in Volume 8, of Defendant's Exhibit 28?

A. That is correct.

Q. Was that due to the fact that the property was assumed to be constructed over a period of several years?

A. That is correct.

Q. And it was necessary to determine the amount of construction which would be done in any particular year?

A. Yes, that is true. You would have to know, as I see it, how much money you would — going to expend in each year, in order to make an estimate of what your charges for interest during construction would be. In order to do that, you would have to make a rational estimate of what work would actually be done during each of these years, because it would be by that method only that you could arrive at how much money you would have to spend.

Q. Mr. Connor, if we refer to page 71 of Volume 7, Defendant's Exhibit 28, do we find at the bottom of the general summary of undistributed general costs, your computation of interest during construction in the amount of \$4,975,-933.00?

A. That is correct, and that figure of course is simply carried forward from the determinations set out in detail on page 61 of Volume 8 of the same Exhibit.

[fol. 1390] Q. Now, Mr. Connor, I wish you would give to the jury a very simple illustration of the computation of taxes during construction and interest during construction as a part of the capital cost of the structure—the direct structural costs of which would be \$100,000.00. Let's assume, Mr. Connor, that as of February first of this year a building is to be erected in the city of Austin, the direct structural costs of which will be \$100,000.00. That that building will be completed on January 2, 1935. Assume some definite tax rate and some definite rate of interest, and then explain to the jury what would be the direct structural costs of that building, plus taxes and interest during construction.

A. The construction period that you have outlined for the building would be, I believe, eleven months, and I presume

from your question that you mean that eleven months from the date of the beginning of the construction—that is, when you started to digging in the ground to build the building—that eleven months from that date, the building would be completed and ready for occupancy?

Q. Assume further, Mr. Connor, that all of the money used was secured at the commencement of the construction period, and that for easy figuring that no interest was earned on unexpended bank balances?

A. I would say that the assumption you have asked me to make is not a rational assumption because it would be impractical for anybody to arrange for \$100,000.00 to build a building, and just get that money on the date that he was [fol. 1391] going to start to build the building.

Q. He would have to have it before that—is that correct?

A. He certain- would, or he wouldn't even have a set of plans drawn up, and I don't think he would attempt to let a contract for the work. He would have to arrange somewhat in advance for the construction of that period, and I would say the minimum time would be one month, which would then give him a one year period for which he would be obligated for that money. Now, he might secure that money under some conditions other than the obligation to pay interest from the date he got the commitment to get it, but I don't believe that he could. If the rate of interest was six percent, then the charges for interest during construction on this property would be \$6,000; that would be a minimum, and if it were eight percent, it would be \$8,000.00. It would be an out of pocket expense, just exactly like money that he paid for the bricks or the mortar or roofing or anything else that went into the building. If he put up his own money, he would also be out the interest.

Now, with reference to the taxes during construction, that building would be partially completed but assessable as of January first, and he would have to pay taxes during the next year for that year, and that would be taxes which had accrued during the construction of that building, and if the taxes or the tax rate was two and one-half percent on a \$50,000.00 valuation, he would pay \$1250.00 taxes during construction.

[fol. 1392] Q. And would that item of \$1,250.00 which he paid for taxes on the property under construction, constitute a part of the cost of the building just as much as the bricks and the lime and the mortar of which you spoke?

A. That is correct.

Q. Is there any essential difference between that determination of taxes during construction and interest during construction and the computation of taxes and interest during construction as used in your estimate of those items in connection with the reproduction of the Lone Star Gas Company's public service property?

A. No, except that the problem is somewhat complicated by the fact that it was necessary and right to assume that a portion of the property would pass into operation during the construction period. It would not be reasonable to assume that a property such as the Lone Star Gas Company would remain inoperative for three years. The people that would build a plant of that kind would have too much sense to sit around and let the plant lie idle, or such parts as they could put into operation during the progress of the construction of the plant, and I have made what I consider a reasonable estimate of the time at which certain proportionate parts of the total plant would pass into operation. For instance, I would estimate that more than 75 per cent of it would be in operation at the end of the second construction year. Now, it would be impossible and there is no way in the world to set down and figure out just how each [fol. 1393] item of the Lone Star Gas Company, if reproduced at this time, would pass from construction into operation. I have done what I think is the only logical thing which could be done in connection with making an estimate of that kind, and that is to set it off into sections, and assume at a given time that a proportionate amount of the plant would pass from construction into operation. It could be estimated that certain cumulative amounts, or certain amounts would go into operation at certain times, but in the end the over-all answer would be the same as determined by the method which I have used.

Q. Now Mr. Connor, with the completion of the description of the method used by you in your determination of interest during construction, have you fully identified and explained each and every item of the preliminary and organization costs and the undistributed general costs which are included in and made a part of Defendant's Exhibit 28?

A. That is correct. Those expenditures which I have attempted to explain and for which I have made an estimate, which is set out in detail in the parts of the two volumes

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which I have heretofore explained, together with the estimates of the physical costs set up by Mr. Biddison, constitute what in my opinion it would cost to reproduce the Lone Star Gas Company as of this time, and put it in readiness to do business.

Q. That is, ready to commence the supply of gas to distributing companies and to customers receiving gas from that company?

A. That is correct, 'Every one of those expenditures [fol. 1394] which I have set out would be necessary, if Lone Star Gas Company did not have one single customer attached to its line.

Q. Mr. Connor, what do you mean, intend and understand by the phrase "Going Value", or "Going Concern Value", as used in your estimate of the reproduction cost of that item, as appearing in Volume 8 of Defendant's Exhibit 28?

A. As I just stated this minute, all of the costs which I have heretofore explained, together with those costs which Mr. Biddison has testified concerning, would be costs which would be incurred in the reproduction of Lone Star Gas Company if it did not have a single customer attached to its system. Those costs would be required to make it ready to take on business. Now, I think Lone Star Gas Company has a certain value, over and above what it would cost merely to get it in readiness to do business, for the reason, first:

That approximately 230,000 domestic consumers receive their supply of natural gas from the facilities afforded by the property of Lone Star Gas Company. That these domestic consumers by the purchase of equipment and appliances representing an investment of more than Forty Million Dollars, and by a knowledge of the value of natural gas, and gas service, acquired over a period of years, have developed an average annual consumption of approximately 80,000 cubic feet per domestic meter installed. That approximately 1400 industrial consumers with diversified requirements receive their fuel supply from the facilities afforded by the property of the Lone Star Gas Company, and that in addition to these particular consumers which [fol. 1395] are now using gas—and that is, industrial users—that there are other industrial users who have discontinued the use of gas but who are equipped to use gas and who have learned the benefits which they may secure from

the use of gas. That the company by the purchase and development of leaseholds and the consummation of advantageous gas purchase contracts, has available to its pipe line system a large supply of natural gas, sufficient to meet the maximum demands of its markets. I think the company has added value by reason of the fact that over a period of twenty years or more it has acquired an operating personnel which is highly trained, capable, efficient and peculiarly equipped to carry on the business of Lone Star Gas Company, and for the further reason that over a period of twenty years and more, the company has developed operating routines; it has smoothed out the rough places in its operating organization; the plant has become well consolidated and its operating efficiency is high. And finally, I believe that it has a value above and beyond that which would be required to merely reproduce it and place it in readiness for business, because of having these customers and having this business and having these efficient operators and efficient routines. It is in position to earn a fair return upon a proper valuation of its property at reasonable rates.

Q. And have you given consideration to those factors in your estimate of the value represented by the business development of the company?

A. I have given consideration to those factors that I have [fol. 1396] enumerated in ascribing going concern value to the Lone Star Gas Company, but I have made no separate allowance for any one of those items which I have specifically enumerated.

Q. Now, Mr. Connor, if we refer to page 71 of Volume 8 of Exhibit 28, it would appear that you have evaluated the going value or the cost of business development of the company at a total net figure of \$7,792,888.00?

A. That is correct.

Q. What method did you pursue in arriving at that determination of net value?

A. I pursued the simple process of estimating the reproduction cost of a capital asset in possession of Lone Star Gas Company, just as Mr. Biddison made a reproduction cost estimate of a capital asset in possession of Lone Star Gas Company as represented by its pipe lines, its compressor stations, and just as I in turn made a reproduction cost estimate of capital costs represented by interest and taxes during construction.

Q. Mr. Connor, does it cost time and money to develop and acquire the business which the Lone Star Gas Company had as of January 1, 1933, and now has?

A. It does.

Q. Does it represent an item which would get or be given consideration in a sale made by a willing seller to a willing buyer?

A. It certainly does. The situation would not be at all unlike that of a newspaper plant set up and ready to do business. It might cost money to buy the printing equipment, to purchase the land in which to house the plant, and [fol. 1397] it would cost taxes during construction; it would cost interest during construction; it would cost supervision during construction; it would cost administration during construction; and all of those items would be included in the cost of setting up that plant ready to do business, but if that plant cost a million dollars and didn't have a single subscriber, but was getting ready as at the date of inquiry to take on subscribers, it would not be worth nearly as much money as an identical plant which had 200,000 subscribers to its publication.

Q. And have you endeavored in your appraisal of the cost of business development, as set forth in Volume 8 of Defendant's Exhibit 28, to make a rational estimate of the costs of acquiring the business which the company had as of January 1, 1933, and which the Lone Star Gas Company has as of the date of this inquiry?

A. I have so estimated it or attempted to do so, and I would like to say in that connection that there is nothing mysterious or complex about the manner in which I proceeded to make this estimate, and I think a simple illustration, which is almost identical with the manner in which I have proceeded, will make this matter clear.

We might take as an example two apartment hotels, identical in every respect, and similarly located in the same city. It can be assumed that each hotel cost a million dollars and that these costs included the architects fees, the costs of underwriting the securities, the cost of legal expenses during construction, the cost of administrative expenses [fol. 1398] during construction; the cost of interest during construction and the cost of taxes during construction. In other words, that million dollars included all of the items which may be ascribed to general and undistributed costs and direct structural costs. Now, it may be further assumed,

in order to make my example clear, that it was an inevitable situation that during the first year that such building was put on the market in the community in which it was built, that 30 per cent of the rentable area of the building could be rented; that in the second year, 50 per cent of the rentable area of the building could be rented; that during the third year, 75 per cent of the rentable area could be rented; and in the fourth year 85 per cent of the rentable area could be rented; and that the building would be fully occupied only after it had been available to the public for a period of five years. There we have 30 per cent, 50 per cent, 75 per cent, 85 per cent occupancy in four successive years.

Now, let it be assumed that one of these apartment hotels was built at such a time that at January 1, 1934, it had reached the point to where it was fully occupied; that would mean that it was placed into service January 1, 1930, and when fully occupied it would pay the owner of the hotel eight per cent on the million dollars, plus the cost of taxes and plus the cost of insurance, in addition to a depreciation accrual, and only when 100 per cent occupied. Now let us assume then on January 1, 1934, that another apartment hotel, just exactly like the apartment which I have just described [fol. 1399] which is fully occupied because it has been in service five years, is just completed. There they stand, just exactly alike. One of them is fully occupied, with tenants whose rentals pay to that owner an eight per cent return, taxes, depreciation and his operating expenses. Now the man who has just finished the second apartment is confronted with going through a period of five years, and in the first year he will only get 30 per cent of the revenue that the gentleman who owns the other apartment is receiving, and in the second year 50 per cent; in the third year he will get 75 per cent and in the fourth year 85 per cent. If he knows that to be a fact and that he must be confronted with that loss each year below what the other man is receiving for the rent of his apartment, he then has a measure of the difference in the present worth between those two buildings.

[fol. 1400] That is the method which I have used in estimating the cost of reproducing the business of Lone Star Gas Company—the same method that the owner of the

empty apartment hotel would estimate the difference between the worth of his building vacant and the building fully occupied.

Q. Now, Mr. Connor, as a matter of fact, in the natural gas business, is the business developed immediately upon the turning into service of the completed plant, or such portions as are completed from time to time?

A. It is not.

Q. Is that true of all natural gas pipe line enterprises, such as the Lone Star Gas Company?

A. It is.

Q. Now, as a measure or yardstick for the determination of the costs of reproducing the business of Lone Star Gas Company, have you taken into consideration certain factors?

A. I have.

Q. What are those factors?

A. I have assumed in connection with this estimate that the physical property of this company was non-existent at the date of the reproduction cost estimate. In other words, in order to make an estimate of what it would cost to reproduce the property it is necessary to assume that it does not exist, and that you have got to build it. And as a corollary to that general proposition, I have also assumed that the business of the Lone Star Gas Company which has [fol. 1401] been developed by reason of the fact that the Lone Star Gas Company has operated over a twenty-year period would be non-existent at the date of the completion of the property in the reproduction of the property.

Q. Now, having made those basic assumption-, what measures did you apply to determine the worth or the cost of arriving at the cost of business developed?

A. When a property passes from construction into operation, the cost of interest on the value of that property, the cost of taxes on the value of the property, and the cost of the necessary reserve accruals which should be set up to protect that property will accrue on the total value of that property, irrespective of the amount of business done by the property. In other words, if a property costs fifty million dollars, and the interest charges are 8 per cent, the fixed charges for interest on that property for the first year will be four million dollars, whether it is fully operated or only partially operated; and the same is true for the accrual for taxes and for depreciation. In other words, these

charges, as distinguished from operating expenses, which will vary with the amount of business which may be done, will accrue uniformly throughout the life of the property.

Q. And have you used those charges for the purpose of determining the amount of money involved in the cost of reproducing the company's business?

[fol. 1402] A. I have, for the reason that these charges would accrue during a period of time in which the Lone Star Gas Company would reproduce its business—that is, secure the business it now has.

Q. Did you take into consideration the business which the Company actually had as of January 1, 1933, and which it now has, and the rate at which that business has attached in the several communities in which the Company operates?

A. I took into consideration the business which the Company now has. I also took into consideration the rate at which that business was actually attached historically, and then modified the historical rate of the attachment of the business of the Lone Star Gas Company in order to limit that period of business attachment to the very shortest period of time possible.

Q. Mr. Connor, does it take a number of years to develop to the extent that the Lone Star Gas Company has its business developed the business which the Company had as of January 1, 1933, and which it has as of this time?

A. It takes time. I pointed out, I think, that it would require an investment on the part of the people who consumed natural gas of around forty or more millions of dollars to reproduce the equipment that they now use for the purpose of consuming the gas supplied by the Lone Star Gas Company. Now, it would take a considerable period of [fol. 1403] time for a group of people to be able to expend that money in order to provide the facilities for using the service of Lone Star Gas Company to the extent to which they are now used. It is the experience of every natural gas company when it introduces its service into a community that has not had natural gas before that there will be a gradual increase in the ratio of the number of customers per thousand inhabitants and a gradual increase in the actual amount of gas used by each individual consumer. Now, in making this estimate, I made a very careful study of the various cities and towns which have been served by Lone Star Gas Company, in order to determine the rate of which this business was actually attached to the system.

I also made studies of individual lines, attached to which were a large number of individual cities and towns; and I secured from that study the information which gave me an opportunity to develop an estimate of the time which would be required under the most favorable conditions to reproduce this business, as distinguished from the property.

Q. In your study of the historical development of the business of the Lone Star Gas Company, did you first make a study of the metropolitan area of Dallas and Fort Worth, which constitute two of the major markets of the Lone Star Gas Company?

A. I did. I made a study of both the Fort Worth plant [fol. 1404] and the city of Dallas. I have incorporated in that study, however, only the data which are applicable to the Dallas plant. The information concerning the Fort Worth plant is practically identical with that shown for the Dallas plant.

Q. Mr. Connor, refer to page 84 of Volume 8, of Defendant's Exhibit 28. Have you plotted on that page the historical development of the domestic business of the Dallas Gas Company for the years 1908 to 1930?

A. I have, yes, sir.

Q. And does that represent the actual historical development of the domestic business of the Dallas Gas Company?

A. The Dallas Gas Company and the County Gas Company, as well.

Q. And the County Gas Company as well. Both companies do business in the metropolitan district of Dallas?

A. Yes, sir.

Q. And the Lone Star Gas Company continuously since 1910 has supplied natural gas at wholesale at the City Gate to the Dallas Gas Company and the County Gas Company for resale in the city of Dallas?

A. That is correct. However, in explanation of the curve shown on page 84, there was a period between 1914 and 1920 [fol. 1405] which was not normal with reference to the experience of the Company. In part that was attributable to conditions existing during the War with reference to the restriction on the extension of public utility service; and in part due to the inability of the Lone Star Gas Company during the years 1918, '19, and '20 to adequately supply the

demands of the domestic consumers in the cities of Dallas and Fort Worth and other communities attached to its system. For that reason, the domestic meter consumption was somewhat down; and for the other reasons I have explained, the meter saturation was not normal. Immediately following the year 1921, the increase was very rapid in the matter of meter consumption and meter saturation.

Q. Please explain to the jury what you mean by per meter consumption and per meter saturation?

A. The meter saturation is usually expressed in the— is an expression of the number of meters into the number of inhabitants. If, in a city like the City of Dallas, and the City of Fort Worth, there was approximately $4\frac{1}{2}$ or 4.2 meters—I am expressing that wrong—if the number of meters in service divided into the number of inhabitants will result in a ratio of approximately $4\frac{1}{2}$, then you have reached what we would consider meter saturation in a city such as Dallas or Fort Worth.

Q. In other words, is it something like this, Mr. Connor? [fol. 1406] It is estimated that you can almost obtain the population of a metropolitan territory by estimating that there will be one gas meter for each $4\frac{1}{2}$ persons who are inhabitants of that territory?

A. That is correct.

Q. And that is what is meant by meter saturation?

A. That is correct.

Q. Now, what is customer's saturation?

A. Customer's saturation and meters saturation are synonymous; they mean the same thing. Now, customer's use is the amount of gas which you may normally expect a customer of a given locality to ultimately consume under a given annual temperature condition.

Q. At the bottom of page 85, and on page 86, have you set forth the historical data relative to the development of the business of the Dallas Gas Company and the County Gas Company, both in relation to the meter saturation and the customer use saturation?

A. That is correct; and the meter use has been modified to give effect to the difference in the heat value of the gas furnished at different periods of time. The heat value of the gas served in the city of Dallas has increased from the time that gas was originally served by the Lone Star Gas Company, for the reason that the gas that was originally delivered to the city of Dallas came only from the Petrolia

Field, and the heat value of that gas was only approxi- [fol. 1407] mately seventy-five per cent of the heat value of the gas which is now delivered; and for that reason it is necessary to make an adjustment in the actual amounts which the customer uses, by giving effect to the difference in that gas; and that adjustment has been made.

Q. If we look at the ratio of meters to population, or what you have designated as Meter Saturation, in the year 1910, which was the year of the introduction of natural gas into the city of Dallas, do we find that the ratio of meters to population was 10:5?

A. That is correct. You would have to multiply the number of meters in service by $10\frac{1}{2}$ to arrive at the population.

Q. Whereas in the year 1930 the ratio of meters to population had become 4.5 or $4\frac{1}{2}$?

A. That is correct; and that same historical situation occurred in Fort Worth, as well as Dallas and the surrounding territory.

Q. Now, if we look at the sales per capita at Dallas and Fort Worth following the introduction of natural gas in the year 1911, what do we find as compared with the use of natural gas in the year 1930?

A. Expressed in terms of use of domestic gas—Now, all of this we are talking about now is domestic gas, as distinguished from what might be termed industrial gas— [fol. 1408] the individual domestic consumer on the average, in the first year in which Dallas had natural gas for one entire year, only used 33 per cent of the volume of gas which the average domestic consumer used in the year 1930.

Q. Now, in addition to a study of the development of the business which the Company enjoys by reason of wholesale sales at the cities of Fort Worth and Dallas, did you make an analysis and study of the development of the business in relation to other towns and cities in the Lone Star Gas Company system?

A. I did. I have made a study of practically every one of the cities and towns served by Lone Star Gas Company. I have included in this study in this exhibit a group of small towns up in the state of Oklahoma, which are typical of the small towns served by the Lone Star Gas Company; and we find that in these towns that the business is acquired much more quickly than it is in the larger cities. The reason for that is that in a small community—and the Lone

Star Gas Company, I believe, serves more small towns than perhaps any other natural gas system in the United States, and the history of that is readily available to anyone who wishes to make a study of this subject—it has been found that by reason of the fact that you can go into these towns and make a complete solicitation of the small towns and reach practically all of the possible consumers, that you acquire customer use saturation—I mean customer saturation—[fol. 1409] much more quickly in the small towns than you do in the large towns; and the same thing holds true with reference to customer use; they reach their maximum use and customer saturation in a small town much more rapidly than they do in a large city. I have here made a study of individual lines in the Lone Star Gas Company system. Take, for instance, Line E, which is the line that goes from Gainesville, Texas, to Paris, Texas. I made a study of the rate at which the total business of domestic gas annually has been acquired since that line was constructed. The line was first put into operation in the year 1925, and it was in service for a very short period of time, and the amount of gas delivered expressed as a percentage of the maximum amount delivered for any one year through this line was .39 of one per cent; the next year 38.88 per cent; the next year 55.54 per cent of the maximum; in 1928, 72.8 per cent of the maximum; and in 1929, 93.65 of the maximum; the maximum occurred in 1930, and we represent that by 100 per cent; and in 1932, the deliveries through Line E were 99.71 per cent. That shows the effect of the rate of growth and the acquisition of business, and how the business gradually increases from year to year on a line which has a very large number of small towns, and some somewhat larger. Line L—or rather take Line O, which [fol. 1410] extends from a point near Lisbon, Texas, to Greenville, and takes in all of the small towns that the Lone Star Gas Company serves in that section of the state. The line was put into service in 1926, and during that year it delivered only 5.81 per cent of the amount of gas that was delivered in 1932; in 1927, 42.66 per cent of the domestic gas which was delivered in 1932; in 1928, 72.57 per cent; in 1929, 86.94 per cent; in 1930, 83.03 per cent; in 1931, 94.4 per cent. In other words there was a period of one, two, three, four, five, six, seven years, in which that business on that line gradually increased until it reached the

100 per cent which is indicated by the gas delivered for domestic purposes during the year 1932. Now, all of the time that situation was going on, Line O was just exactly the same line that it is today. It was no smaller, and the interest on its cost and the taxes on its cost, and the depreciation on that line were just the same each year that I have read into this record despite the fact that in varying years the percentage of business done was considerably below the maximum. Those studies of lines, which include [fol. 1411] a large number of small towns, merely confirm the conclusions which are set out in Exhibit 28. Now, having studied these various individual instances of the rate at which business could normally be attached to a line, I was in position, I think, to make a rational estimate of the period of time under the most favorable conditions during which the business of Lone Star Gas Company, as represented by the business in existence as of 1934-1933, could be acquired, and that is what I have attempted to do; and having determined that the rate of business acquisition was different in various groups of towns, I divided the system of Lone Star Gas Company into three groups, each group having peculiar characteristics. The first group are the two large metropolitan areas—Fort Worth and Dallas. These particular communities stand in a class by themselves, and they are treated in that way. Now, from the history of the business development in Dallas, shown on page 84 of Volume 8, of Exhibit 28, I compress that period of twenty years business development into a six-year period for the cities of Waco, Abilene, and one or two other cities of that type, which are large enough to have artificial gas plants, or at least would have artificial gas plants before natural gas was introduced.

Q. As a matter of fact, historically, did they not have [fol. 1412] manufactured gas plants?

A. They did. I used a five-year period, and modified slightly the historical experience which I had already modified in connection with the Dallas metropolitan area. In other words, I assumed that it would be possible under the most favorable conditions to fully develop the business in Waco, Paris, Abilene, Wichita Falls, and cities of that type, within a five-year period from the first day that they got natural gas. In the small towns which I studied, individually and collectively, as indicated by the history of

these lines which I have read into the record, I gave a three-year development period, despite the fact that the evidence clearly disclosed that on Line O, which serves nothing but a group of smaller towns, that they took seven years to acquire the business which Lone Star Gas Company now enjoys on that line. Now, I also made a study of Line F, which is a typical line, from Joshua Station to Waco, Texas. That line was built in 1920—fourteen years ago. It never got its saturation until 1930.

Q. In other words, on that line it took ten years to develop the business which the Company actually has?

A. That is correct. And take a great trunk line from West Texas—Line K, an eighteen-inch line: that line was constructed in the year 1920, and during that year its total deliveries were 475,000,000 feet of gas, in 1921 only 1, [fol. 1413] 673,000,000; in 1922 only 1,236,000,000; in 1923 only 2,191,000,000; and yet in the year 1931 that line delivered 13,754,000,000 cubic feet, and in the year 1925, 16,179,000,000 cubic feet,—showing that that line for a period of five years delivered nothing like its ultimate capacity to deliver gas. There is every historical proof that it takes time to acquire a business such as that enjoyed by Lone Star Gas Company, and I have attempted to modify that and limit it to the absolute minimum time which would be required to reproduce this business.

Q. Mr. Connor, if we refer to pages 94 and 95, do we find on those pages a computation of the percentage of the total domestic business of the Lone Star Gas Company which is represented by the group of towns and cities receiving gas at the end of the first construction year, and which towns and cities are shown on the map on page 16 of Volume 8 of Defendant's Exhibit 28?

A. That is correct. I have assumed that the pipe lines shown on page 16 of this exhibit—Volume 8, Exhibit 28, that all of the towns which could be served by that construction would be receiving gas at the end of the first construction year.

Q. I believe, Mr. Connor, I was in error in stating that all of the towns appeared on that map. All of the smaller towns do not appear on that map.

[fol. 1414] A. No, that is correct. The map is too small and the scale too small to write in all of the minute towns. However, it was obvious by the location of the mains as

shown by that map that the towns which I have estimated would receive their gas at the end of the first construction year could be served from that construction.

Q. And have you similarly determined on pages 94 and 95, by reason of the total of Lone Star's domestic sales, which are represented by the sales made at Dallas and Fort Worth, and by the Group B towns, including Abilene, Cleburne, Denison, Sherman, Abilene, Wichita Falls, and by the Group C towns, representing the smaller towns and communities?

A. That is correct. And when I say Group A towns I refer specifically to the metropolitan area of the city of Dallas and the metropolitan area of the city of Fort Worth; when I refer to Group B towns I refer to the second larger group of towns—the group of the second larger towns; and when I refer to Group C towns I refer to the small towns which I have previously testified would secure their meter saturation or use saturation very quickly. Bearing in mind that it is estimated that the saturation of meters and sales which it has taken twenty years to secure in the city of Dallas would be secured in six years, in the second [fol. 1415] group of cities I have estimated that that business could be acquired in five years, and in the third group of cities and towns in three years, and this six-year group is Group A, the five-year group is Group B, and the three-year group is Group C.

Q. Now, Mr. Connor, as you have previously testified that estimate is even more favorable than the historical experience of the Company in connection with the acquisition of business in those several cities, towns and communities of Groups A, B and C?

A. It is true from a study of the individual towns and it is demonstrated to be true from a study of lines which would include a group of towns.

Q. Now, Mr. Connor, is there anything peculiar about the time required to develop the business which the Lone Star Gas Company has—has it been historically demonstrated that it takes a similar amount of time to develop the business which any natural gas company enjoys?

A. Certain conditions might modify that. Where a city, say, like Chicago, or a city of that type which was highly developed from a manufactured gas business, it might be possible to go into that city and acquire a very large amount

of business initially; but in cities such as we have in Texas, I don't think that would be true.

Q. If we refer to pages 95 and 96, have you determined on those pages the percentage of the total domestic business [fol. 1416] of the Lone Star Gas Company represented by the group of cities and towns receiving gas at the end of the second construction year?

A. That is true, and in doing that I took the map which represents the construction which would be accomplished during the second construction year and determined the number of towns which would initially be attached to the system of the Lone Star Gas Company by means of that construction; and then I went to the records of the Company and ascertained what percentage of the total domestic gas sales was represented by the business of these towns; I did that in every case. In other words, I determined what percentage of the total domestic business of Lone Star Gas Company was represented by the sales in the towns which would be attached the first year, the second year, and the third year.

Q. And, similarly on pages 97 to 101, inclusive, of Volume 8, of Defendant's Exhibit 28, have you shown the percentage of the total domestic business of Lone Star Gas Company represented by the groups of cities and towns receiving service at the end of the third constructive year?

A. That extends to page 101.

Q. Now, from all of that data, Mr. Connor, or did you use all of that data as a basis of your computations in [fol. 1417] respect of the over-all attachment of the business which the Company had as of January 1, 1933, and now has?

A. I did; and to show that there was in this method an effort to follow the method which an intelligent organization would follow with reference to securing this business, I show on page 101 that the estimate that I used is based upon the fact that the property turn-over for business development at the end of the construction year would attach to its mains 69.65 per cent of all of the domestic business which Lone Star Gas Company now has.

Q. And, similarly, what would be the percentage at the end of the second construction year and the third construction year?

A. 15.03 per cent would be attached at the end of the second construction year and 15.32 per cent at the end of the third construction year, which added to 69.65 gives one hundred per cent or the total domestic business enjoyed by Lone Star Gas Company.

Q. Now, Mr. Connor, following that determination, how did you use the data derived in order to approach an estimate of the cost of the business developed?

A. The first step in that determination is shown on page 102, Volume 8, Exhibit 28, and there is shown Group A 51.15 per cent of the total domestic sales, Group B 15.56 per cent of the total domestic sales and Group C 2.94 per [fol. 1418] cent of the total domestic sales; that is the relative percentage of the total domestic sales represented by the Group A towns which would be attached to the system at the end of the first construction year. Now, from the data which have been previously analyzed and discussed and which are shown in graphic form, it was determined that upon the basis of an estimate 22 per cent of the total saturation would be secured in the Group A towns during the first year, 22 per cent of the Group B towns during the first year, and 34.60 per cent of the Group C towns during the first year after gas had been introduced; that is when you multiply that per cent by the total domestic sales expressed as a percentage represented by the Group towns which would be attached during the first year, you get 15.69 per cent of the total business of Lone Star Gas Company which would be represented by the sales which would be made to those towns during the first year after they had been attached to the system. Now, if reference is made to Exhibit 36, which is this chart which I have in my hand, it will be noted that in graphical form that same figure is clearly shown—that is, that during the first year after the property has gone into operation that approximately 15.7 per cent of the total domestic business would be secured. Now, that method of calculation is followed for each successive year.

[fol. 1419] Q. Up to the time that the company has its business fully developed?

A. Fully developed; that is correct; and the Group A and Group B and Group C towns which would be attached by reason of the construction done in each of the construction years, is put in the proper place in the computation and

the proper percentage of the total domestic business represented by these towns is set out, and also the percent of saturation, both use and customer saturation, applicable for that year, as taken from the curves, is applied to that and from that application is developed an estimate of the percent of the total domestic sales of Lone Star Gas Company which would be secured in each of those successive years.

Q. By determining the percent of the total plant which was active and deducting that from the plant as actually constructed, did you determine the unused portion of the plant, or the percent of the total plant which might be called idle, as of the end of any construction year?

A. That was a very simple matter to do. It was estimated that at the end of the first construction year 43.31 percent of the total cost of the property would pass from construction into operation, but of that 15.69 percent of the total plant was active as compared to the total business which you might expect from the plant, and therefore 27.62 percent of the total plant had just as well not been built, so far as the amount of business that was during during that first year. It might as well have been under [fol. 1420] construction, so far as the revenues which it would secure for the company were concerned.

In the second year, by the same process, the percent of plant which was not in use was 42.33 percent, based upon the manner in which I have made this estimate. In the third year it was 37.94 percent; in the fourth year it was 19.71 percent; in the fifth year it was 8.82 percent, and in the sixth year it was 2.28 percent.

Q. And at the end of that year you have arrived at the point where the company had the business which it actually had attached as of January 1, 1933, and as of now?

A. That is based upon the manner in which I have made this estimate. Now, that is an inescapable process, and represents the manner in which I finally made my estimate of the cost of securing the business which the Lone Star Gas Company now enjoys.

Q. All details in connection with the computation of the amount of idle or inactive plant, and the percent of plant in use, are set forth, at least in summary form, at pages 102 to 104, inclusive, of Volume 8 of Exhibit 28?

A. They are set out in detail on those pages, and also expressed in graphical form in Exhibit 36. In other words,

a substantial amount of the figures shown on the graph, Exhibit 36, are derived entirely from the calculations made on pages 102, 103 and 104.

Q. Now Mr. Connor, having determined the portions of Lone Star Gas Company's public service plant which were put into active service following the completion of construction, [fol. 1421] and therefore having determined the amount of plant which was idle or inactive following the completion of that part of the constructed property, how did you make use of that data in determining the cost of reproduction of the company's business?

A. As I previously stated, the items of interest, taxes and depreciation accrue on a property irrespective of the amount of business done by that property. I applied what constituted a fair interest charge for the use of natural gas property in the public service; the tax rate approximating the actual tax rate of Lone Star Gas Company, and a charge for depreciation reserve accruals against the cumulative percentages of plant which would necessarily be inactive during the period of business development in reproduction.

Q. Now, in using fixed charges on idle plant as a yardstick or a measure of the determination of the cost of business development and the determination of going value of the company as of January 1, 1933, or now, do you in any sense intend or contemplate the capitalization of operating losses?

A. Absolutely not.

Q. Or losses arising by reason of the inadequacy of revenues to meet operating expenses?

A. I do not. In fact, there is no operating losses estimated in the set up. It is presumed on the face of it that all operating expenses are met. Furthermore, to assume that the method which I have used is an attempt to capitalize historical operating losses can not bear analysis. A [fol. 1422] property, or the historical operating losses of a property would be a summation of actual out of pocket losses which a property might have incurred over a period of years through bad management, inadequate rates or any other causes which might be suggested, and I do not believe that anyone could construe that the summation of a lot of losses, whether due to bad management, inadequate

rates, or the uneconomical layout of the business, could contribute to the value of that business at any given time.

Q. And regardless of any historical losses, would that serve to increase or decrease your estimate of going concern value or cost of reproduction of business of the company?

A. No, because I have given no consideration to losses of any kind, either estimated or historical. I have attempted to estimate costs. There is a distinction, I think, between losses and costs. It costs money to buy the property which went into the Lone Star Gas Company system. I do not think that could be defined as a loss. That is a cost and is represented by the worth of the commodity purchased by this money. Interest during construction on property wholly under construction is a cost; it is not a loss. It is one of those things which a man necessarily makes provision for when he builds his building. It is just as much a part of the cost of the building as the brick and the mortar and he makes provision for that cost. It is not an operating loss.

[fol. 1423] Now it costs money normally and inevitably to secure the business of such a concern as Lone Star Gas Company. There are certain costs involved in the securing of that business. These costs can not be construed, as I understand it, as losses. They are simply a part of the cost of reproducing a part of that business, just as the estimate Mr. Biddison made in connection with the laying of that pipe was an estimate of the cost of laying that pipe.

Q. Now, Mr. Connor, you have stated that you took into consideration three factors in measuring the charges on idle plant, and that those three factors were interest, depreciation and taxes?

A. That is correct.

Q: What interest rate did you use?

A. I used what I construed to be a fair return for the use of a natural gas pipe line property.

Q. And what rate of interest was that?

A. Ten percent per annum.

Q. Did you apply ten percent throughout in your estimate of the cost of business development?

A. No, sir, not during the time when the property was under construction.

Q. For the last four development years you did use ten percent?

A. That is correct.

Q. Now what depreciation reserve accrual or charge did you use in the computation of these fixed charges on idle plant?

A. Three percent for the first development year, three and one-half percent for the second development year; four [fol. 1424] percent for the third development year; four and one-half percent for the fourth development year; five percent for the fifth development year and five and one-half percent for the sixth development year.

Q. And are those computations in respect of the annual rate of reserve accruals fully explained on pages 105 and 106 of Volume 8 of Defendant's Exhibit 28?

A. That is correct.

Q. What did you use for taxes in connection with the computation of fixed charges on idle plant?

A. I took the actual taxes paid by Lone Star Gas Company.

Q. In other words, the taxes to which you have referred previously today in the amount of \$301,820.00 per annum?

A. That is correct. That is the actual amount paid by Lone Star Gas Company, and I applied them to the percentage or to the proportionate amount of the property which would be in service but inoperative during the period of business development of the company.

Q. You therefore now have determined and explained your method of determination of the factors to be applied in measuring the fixed charges on idle plant, those factors being interest, depreciation and taxes?

A. That is correct, and those fixed charges upon the idle plant, as I have previously explained, were determined upon the basis of domestic customer saturation and domestic use.

Q. You contemplated, Mr. Connor, that there will be certain industrial business that the company had, as each unit of the company's property goes into operation at the end of any construction year?

A. That is correct.

Q. And how have you subsequently handled that in your appraisal?

A. I have set out in detail an estimate of the rate at which I believe industrial business could be secured. Now as the industrial business is taken on, the company would of course make a net revenue from the sale of this industrial gas. I have then applied the net revenue which the company would

secure from the sale of its industrial gas to the calculations previously made relative to the fixed charges on the idle plant developed by the domestic business. In other words, I have credited back against the estimate of the fixed charges, the idle plant developed by the history of the domestic business, such net industrial revenue as the company might reasonably expect during the period of its business development.

Q. In other words, Mr. Connor, you have credited the net industrial revenues back against these fixed charges to the extent or in the same manner as you credited back upon the interest rate the earnings on unexpended bank balances?

A. That is correct.

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[fol. 1426] Q. Mr. Connor, at pages 107 to 111 inclusive, of Volume 8, Defendant's Exhibit 28, do you set out the detail of your calculations of fixed charges on idle plant?

A. Pages 107 to 111, inclusive.

Q. Now, Mr. Connor, please explain to the jury, in a general way, how those calculations were made?

A. As I testified yesterday, I made a careful determination of the amount of property which would pass into service at stated intervals during the construction period. By the analysis of the rate at which the domestic consumers would be attached to the various classes of towns which would be attached, and from the estimate of the rate at which these consumers would use gas, I determined what proportionate part of that plant which went into service would be unused in comparison with the use to which that [fol. 1427] property is now put in connection with the domestic sales of Lone Star Gas Company. Having made that determination, I arrived at the sum of money which would be represented by the reproduction costs of that portion of the property which would not be used during the period of time in which I have estimated would be required to secure the present business of Lone Star Gas Company. To that sum of money I applied the annual percentage for interest and return, the annual sum of money for taxes, and the annual percentage for reserve accrual. The application of those percentages to the various sums of money resulted in a total sum which expressed my estimate of the cost of reproducing the domestic business of Lone Star

Gas Company. As I explained very briefly yesterday afternoon, the Company would, of course, secure industrial business, and make industrial sales concurrently, or at the same time, during that period of business development. Such profits as would accrue on these sales of industrial gas would necessarily represent a credit to those costs which I have previously estimated. I made an estimate of the rate at which that industrial business would be attached, and in making that estimate I used the actual experience of the Lone Star Gas Company from the year 1921 to the year 1927, during which period of time it actually secured its industrial business, because as of the year 1921 the total sales of industrial gas on the part of the Lone Star Gas [fol. 1428] Company were less than two and a half billion cubic feet; while in the year 1927 they had increased to twenty-four billion cubic feet. I took that actual experience of the Company in developing its industrial sales during that period of time as the basis for my estimate of the rate at which industrial gas sales could be secured in the reproduction of the property. That, in my opinion, is a liberal estimate; or at least, it reduces the period of time below that which I actually believed would be experienced, for the reason that from the year 1921 to the year 1927 the price of fuel oil was very high, and for that reason it was not at all difficult to sell industrial gas to prospective industrial consumers. That situation does not exist at the present time. However, I have predicated my estimate of the rate at which that industrial gas would be secured upon that history.

Q. Mr. Connor, in order to attach this industrial business has it been necessary for the company to maintain an industrial gas department?

A. That is correct. The Company now maintains an industrial gas organization, which does nothing but contact industrial consumers, prospective and attached. It renders services in the matter of the design of installations, and every other thing necessary to interest an industrial consumer in the use of natural gas.

Q. In the acquisition of the industrial gas business which [fol. 1429] the Company had as of January 1, 1933, and which it now has, have you contemplated that the services of an industrial gas organization would be necessary?

A. I have. I have made an estimate similar in all respects to the estimate which I made of the various adminis-

frative departments to cover the cost of attaching this industrial business. In order to secure this industrial business at this time and within the period of time which I have assigned to its acquisition, it would be necessary to make a very intensive campaign by means of a highly trained industrial gas sales organization, and I have estimated what that cost would be, and properly, I think, have deducted the cost of securing that business from the net profits which I estimate would accrue to the Company each year.

Q. What did you determine the total of the net industrial revenue to be which would be applied as a credit on the fixed charges on idle plant based on domestic sales?

A. \$3,996,180.00.

Q. If we refer to page 71, of Volume 8, Defendant's Exhibit 28, do we find there applied a credit for the net industrial revenues in the amount which you have just stated?

A. You do.

Q. And if we refer to pages 133 to 136 inclusive, do we find set forth the calculations respecting the net credits on account of industrial gas sales?

A. You do; and in making the calculation I made my [fol. 1430] estimate just as I did with reference to domestic gas sales upon the towns upon the basis of the industrial gas in the particular towns which I estimated would be attached to the system during each of the years following the initiation of natural gas service.

Q. Mr. Connor, one other item appearing on page 71, of Volume 8, Exhibit 28, which is included in connection with your cost of business development is Personnel Costs. What do you mean by Personnel Costs?

A. I mean the actual cost which would be incurred in the reproduction of Lone Star Gas Company in the matter of bringing together and securing the trained and competent personnel which I believe would be necessary for the construction of this property.

Q. Does the Company actually have as a construction and operating force a personnel consisting of men skilled and experience in all of the ramifications of the Company's operations?

A. It does. These men are not only skilled in matters pertaining to the operation of a natural gas property and the construction of a natural gas property, but they are peculiarly fitted to operate and construct the Lone Star

Gas Company property, for the reason that they have an intimate familiarity with that property which has been brought about by, in many cases, continuous service extending over a long number of years.

[fol. 1431] Q. And you estimate those Personnel Costs to be \$200,000.00?

A. That is correct.

Q. In connection with your experience with other natural gas projects and enterprises, have you seen incurred substantially similar costs in the matter of assembling and training an organization for construction and operating purposes?

A. I have. I have seen men taken from one organization wherein they had become trained and experienced in the natural gas business and transferred to another organization at salaries, in many cases more than double what they were receiving in the organization in which they had previously been employed. It is difficult to go out and secure men who are trained and experienced in the natural gas business, for the reason that the natural gas business is not a universal business, but it is limited to specific locations where natural gas is found. You could go all over the continent of Europe and you would not find a single man who was trained and experienced in the operation of a natural gas property, and you could go over a substantial part of the United States and not find a single man who had had any experience whatever in the operation of a natural gas property. Now, that is not true of electrical properties, and you can more readily assemble a trained and skilled organization to operate an electrical utility than you can to operate a natural gas utility.

[fol. 1432] Q. Is the same true of the water and telephone utilities?

A. It is true of a water utility; but I would hardly say it is true of a telephone utility.

Q. If you refer to page 71, of Volume 8, of Defendant's Exhibit 28, do you finally arrive at the cost of going value, or cost of business development, in the amount of \$7,792,888.00?

A. That is correct.

Q. After applying the net credits for industrial revenue?

A. That is correct.

Q. And if we refer to page 6, of Volume 1, of Exhibit 28, do we find that figure carried forward on the Recapitulation Sheet?

A. You do.

Q. Now, Mr. Connor, do you mean to use the term "Fixed Charges on Idle Plant" as synonymous with the term "Going Value", or "Going Concern Value", or "Cost of Business Development"?

A. I mean to imply that the estimate which I have made is an estimate of what it would cost to reproduce the business which Lone Star Gas Company now has, if the property should be reproduced as of this time. That cost which would necessarily be incurred in the reproduction of this property and business is to my mind a fair measure of what the going value of this property is.

Q. Do you use the term as synonymous with going value?

A. No, sir.

Q. Mr. Connor, refer, please, to page 141, of Volume 8, [fol. 1433] of Defendant's Exhibit 28. You set forth on that page a General Summary of Working Capital?

A. That is correct.

Q. Please explain to the jury what you mean, intend, and understand by the term "Working Capital."

A. When any business becomes entirely operative, or partially operative, certain sums of money will be continually tied up in the operation of the property. They will be represented in part by the actual cash which is paid out in operating expenses before the company receives the money for the commodity which it has sold. It is represented in part by the necessary materials and supplies which must be currently kept on hand to properly maintain and operate the property. In the case of Lone Star Gas Company in particular, and natural gas companies in general, there is usually a substantial sum of money tied up in advances which are made on gas purchase contracts or drilling arrangements. This money is advanced and the company is out of the use of it until some future period of time, and that sum of money remains fairly constant from day to day. A company such as the Lone Star Gas Company makes certain pre-payments of expenses, and they are, therefore, out of pocket and out of use of the money represented by these pre-payments.

Q. What is the nature of those pre-payments?

[fol. 1434] A. Insurance and rentals cover the item fairly completely. There is always some incomplete construction in progress which is not ready to operate. The money, of course, which is tied up in the normal amount of incomplete construction in any period of time would represent a sum of

money upon which the company was not in position to earn. The company, in order to properly conduct its business and to secure accommodations from commercial banks, finds it necessary to maintain cash balances above the last penny that would be required to operate the property, and Lone Star Gas Company does so maintain these cash balances. A fair and reasonable allowance should be made for the sum of money which a company feels is necessary for the proper conduct of its business, represented by cash balances. Lone Star Gas Company also has its system full of gas, and will always have its system full of gas. That gas in the system will never be paid for,—or at least, an equivalent amount of gas will always be in the system. That gas must be paid for by Lone Star Gas Company, and I have made an estimate of the value, or rather the cost, of that volume of gas which is continually in the system.

[fol. 1435] Q. Does that really constitute part of the company's stock in trade, or might it be referred to as a part of the materials and supplies currently on hand at all times?

A. That is correct.

Q. At the bottom of page 143 of Volume 8 of Defendant's Exhibit 28, Mr. Connor, is the figure of 156,425 cubic feet correct?

A. No, sir. The exhibit should be corrected, page 143, Volume 8, Exhibit 28, by the inclusion of a capital "M" after the figure 156,425; in other words, instead of 156,425 cubic feet it should read 156,425-M cubic feet, which, in the natural gas business, means thousands of cubic feet.

Q. At pages 142 and 143 of Volume 8 of Defendant's Exhibit 28 have you set forth in detail the various allowances which you think are properly made for working capital of the company?

A. I have.

Q. And are those allowances based upon the company's actual requirements, in your opinion?

A. That is correct. The figures, however, were furnished me by Mr. Huley in part as being the current expenses which would properly be used in connection with a determination of working capital.

Q. But you have made a verification in so far as materials and supplies are concerned, advances on gas purchase contracts and other items?

A. That is correct. Now, it must be borne in mind that these items will vary from time to time, and I have taken [fol. 1436] even, round figures as representing what might be considered, I believe, a normal, average allowance for working capital.

Q. As indicated on page 141 of Volume 8 of Defendant's Exhibit 28, what is your total allowance for working capital?

A. \$1,701,600.00.

Q. And if we refer to the recapitulation or summary sheet on page 6, Volume 1 of Defendant's Exhibit 28, do we find that that figure is carried forward to that page?

A. We do.

Q. Now, Mr. Connor, adding to the direct structural costs of the Lone Star Gas Company property as computed and estimated by Mr. Biddison the preliminary and organization costs developed by you and the general and undistributed costs developed by you, as well as your estimates of going concern or going value, the cost of reproduction of the company's business, and also the allowance for working capital, what is the reproduction cost new of Lone Star Gas Company's public service plant, property and business as of January 1, 1933?

A. \$73,983,405.57.

Mr. Griffith: Now, if Your Honor please, that concludes the Direct Examination of this witness in so far as Exhibit 28 is concerned. We shall expect to recall the witness at some subsequent time on other matters and other phases of the case.

[fol. 1437] Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Connor, in giving your qualifications I believe you stated that you at one time worked for the City of San Antonio?

A. That is correct.

Q. In what capacity?

A. As a consulting Engineer.

Q. Were you the City Engineer?

A. No, sir.

Q. Were you Consulting Engineer only in public utility matters?

A. That is correct.

Q. While you were working for the City of San Antonio, did you have occasion to make appraisals of some public utility concerns serving that city?

A. I did not.

Q. What did you do?

A. I made a report for the City of San Antonio in connection with what I considered would be proper rates for the sale of domestic gas in the City of San Antonio, and also represented the City of San Antonio in a hearing before the Texas Railroad Commission.

Q. In the hearing before the Texas Railroad Commission did you testify as to the value of any public service property?

A. I don't recall, Mr. Fitzhugh, that I testified as to the values of any public service properties, because I made no estimate of the value of any public service property in connection with that case.

Q. Did you testify as to what would be the proper overheads to include?

A. I don't recall.

Q. Besides representing the City of San Antonio you have served various times on the public's side of rate questions, have you not?

A. Yes.

Q. Now, during the time that you represented clients other than public service corporations you had different ideas as to the proper overheads to include, did you not?

A. I may have had, Mr. Fitzhugh.

Q. At different times when you testified in connection with such matters during that period in your engineering experience you testified consistently that taxes during construction were not a proper overhead to include in an appraisal, did you not.

A. I may have, and I may not have. I do not recall.

Q. The same is true of your views at that time regarding going value or going-concern value; isn't that true?

A. I would have to see specifically or know specifically the particular circumstances surrounding the manner in which the determination was made. I will state frankly that since 1920, or thereabouts, my opinion in those matters has substantially changed.

Q. Yes, sir. And prior to the time that you started representing public service concerns it was also your opinion, was

it not, Mr. Connor, that the cost of financing or that cost as it might become a part of preliminary or organization overheads was also properly excluded for the purpose of making [fol. 1439] a rate valuation?

A. I don't know that it extended, Mr. Fitzhugh, to the cost of brokerage. I still think, as I stated in my direct testimony, that any inclusion of discount of securities, would certainly be an improper inclusion in a rate matter.

Q. And the same is also true of promoter's fees, is it not?

A. Well, I think my experience in the matter of the actual incurrence of fees and remunerations to originators of a natural gas project was acquired subsequent to the time that I represented the City of San Antonio, and in connection with that representation of the City of San Antonio at that same time I was also retained as Consulting Engineer by Lone Star Gas Company and by the Palmer Corporation of Shreveport, Louisiana.

Q. At any rate, Mr. Connor, since you have given over your services almost exclusively to public service corporations you have radically changed your idea as to proper overheads to include in a rate-making appraisal, have you not?

A. Well, I think a great many of the views that people have are sometimes changed by experience, by added knowledge, and by factors which are beyond their control.

Q. But you will grant, will you not, that you have had a change of heart since you changed sides?

A. Well, I have not changed sides, Mr. Fitzhugh. I am at this time engaged to represent the City of Corpus Christi just as soon as the case is tried.

Q. The City of Corpus Christi?

A. Yes, sir.

[fol. 1440] Q. Against whom?

A. Against the gas company.

Q. Against what gas company?

A. The old artificial gas company that originally had a plant in Corpus Christi.

Q. Isn't that a municipally-owned system today?

A. The one that the City of Corpus Christi operates is a municipally-owned plant, yes.

Q. And likewise the gas supply, do they not?

A. Yes, sir. I designed the plant and helped the City of Corpus Christi put that plant in.

Q. All right. But there is no doubt, is there, Mr. Connor, but what you have about-faced on several of these overheads since about the year 1920?

A. It would depend very largely, I think, as to whether or not the San Antonio Public Service Company, for instance, in their current operating charges—

Q. Excuse me, Mr. Connor. Answer that question "yes" or "no", and then explain.

A. I think I have answered the question already.

Q. Well, I am asking you now isn't it a fact that after about the year 1920 you have about-faced your views on some overheads? Now, answer that question and then make whatever explanation you feel called upon to make.

A. That is correct.

Q. Now, when Mr. Biddison testified heretofore as to the total cost of what he called reproductions of the company's [fol. 1441] properties as that cost applied to the direct structural cost, as I believe he termed the cost, he arrived at a value of forty-nine million five hundred thousand dollars plus, did he not?

A. I don't recall the exact figures, Mr. Fitzhugh. I presume that is correct. I don't know.

Q. That figure included, did it not, Mr. Connor, all the job overheads?

A. Mr. Biddison's estimate included, as I conceive his estimate, all expenses which would be incurred on the job.

Q. Including job overheads?

A. That included such job overheads as would be properly assignable to a particular piece of construction; that is correct.

Q. Now, you come along and add to Mr. Biddison's findings approximately fifty per cent of the amount that he found?

A. For what?

Q. For the general properties?

A. No, sir.

Q. Well, that amount is twenty-four million four hundred thousand and something, isn't it?

A. Yes, but you are not specific. That does not represent my estimate of the general and undistributed costs of constructing the property.

Q. Well, that represents your estimate of the general and undistributed costs, at least, your intangibles?

A. Well, it represents interest during construction, taxes during construction, the cost of reproducing the business, [fol. 1442] and the preliminary and development costs.

Q. Well, to make it plain, your costs include the general overheads, including interest and taxes during construction?

A. That is correct.

Q. In addition to the going value?

A. That is right.

Q. Working capital?

A. That is right.

Q. And engineering records, all that sort of thing?

A. Well, I think Mr. Biddison included in his estimate, Mr. Fitzhugh, the engineering records—final engineering records.

Q. But you include in yours the preliminary engineering records, do you not?

A. Not any preliminary engineering records. I have included in my estimate what I term general engineering, which would be engineering required for the construction of the property, as distinguished from the preparation of the final engineering records.

Q. Well, anyway, your final amount for those things is twenty-four million plus; isn't that right?

A. \$23,209,834.00.

Q. Who was it that was responsible for the estimated cost of final engineering records?

A. I was responsible for it.

Q. That is in the amount of \$765,690.35, is it not?

A. That is correct.

[fol. 1443] Q. So, all in all, you have contributed to this Exhibit 28 findings covering property and overheads worth \$23,209,834.00; isn't that correct?

A. That is the sum shown on page 1 of Volume 7, Exhibit 28. The analysis of that sum discloses the fact that of the so-called undistributed overheads attributable to the construction of this property that I have estimated them at an amount not to exceed four and one-half million dollars.

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Q. You mean twenty-four and a half million, don't you?

A. No, sir; I mean exactly what I said.

[fol. 1444] Q. You estimated, did you not, Mr. Connor, that Preliminary and Organization Expenses for the repro-

duction of the Company's properties alone would be \$4,474,272.00?

A. Yes; but that is not a general undistributed overhead during construction; it has nothing to do with the construction of the property except to get the situation ready to start construction.

Q. Now, as I understood you just a minute ago, I thought you said four and one-half million represented the total overhead you found on the Company's construction.

A. No, I didn't say that, Mr. Fitzhugh. I said that represented undistributed general costs which I estimated would be attributable to the construction of this property. Now, I do not construe that the cost of interest can be construed in the same sense as the salaries and expenses of men engaged in the supervision of a property under construction. That is a cost which is incurred by reason of the use of money in construction. Of course, it is a part of the over-all cost of the property, but it is not represented by salaries and expenses of men engaged in the general supervision of the property during construction. I think a clear-cut distinction can be drawn there.

Q. All right. Now, Mr. Connor, the things that you have evaluated in Volume 7 and Volume 8 and which you have been testifying to these last few days, aggregate a [fol. 1445] total amount of twenty-four million dollars, do they not—plus?

A. Well, now, Mr. Fitzhugh, let's understand each other. The estimate which I show on page 10 of Volume 7 is \$23,209,834.00.

Q. Well, now if you add the final engineering records of \$765,000.00, plus, we will know then just exactly what part you played in making this appraisal, won't we?

A. That is correct; but that is not an overhead cost; that is a reproduction cost of a piece of the physical property.

Q. All right, call it what you will. Now, you and Mr. Steinberger and Mr. Biddison have collaborated in producing what is known in this case now as Exhibit 28, have you not?

A. Yes, Mr. Biddison and I and Mr. Steinberger have collaborated throughout the preparation of this report.

Q. The whole purpose of this exhibit is to find the present value of the Company's property by a measure of its reproduction value at the present time at present prices, is it not?

A. So far as I am concerned, it is not an attempt to find the present value of the property; that is for somebody else to determine. So far as I am concerned, I am simply here and have been engaged in an effort to determine what it would cost to reproduce this property.

[fol. 1446] Q. You know what purpose is going to be made of this appraisal, don't you? You have been in rate cases before. You realize that this exhibit is going to be used as a basis for seeing what the present value of the Company's properties are as of the date of this hearing?

A. I think the exhibit, Mr. Fitzhugh, speaks for itself. It says that it is a cost—an estimate of the cost of reproducing the property.

Q. Yes; but, Mr. Connor, I am asking you if you don't know what the purpose of this thing is.

A. Yes, I know the purpose of it—

Q. All right, sir. -

A. —because the reproduction cost is one of the measures of value, and it is offered, I presume, by the Company for the purpose of showing what that measure of value, along with other measures of value, is.

Q. And it is supposed to be applied, is it not, Mr. Connor, as a measure of the value of the properties as they actually are to-day, and not of some other and different properties?

A. That is correct.

Q. Now, you make certain basic assumptions before you start finding value by the reproduction method, do you not?

A. I think you have to, Mr. Fitzhugh, and I did, yes, sir.

Q. One of the assumptions you make is that the property [fol. 1447] does not exist?

A. That is correct.

Q. That is, you assume that none of the lines of the Company that are in existence to-day are in existence at all, do you not?

A. That is correct.

Q. Do you assume, Mr. Connor, that none of the gas fields or gas wells from which the Company now takes gas, are in existence?

A. I have assumed that in so far as the development of gas fields has been brought about by the drilling of wells by Lone Star Gas Company or for the supplying of gas to

Lone Star Gas Company, that that development would be non-existent; that is correct.

Q. That is, you assume that all the Company-developed wells do not exist?

A. That is correct.

Q. All the wells built by other owners do exist?

A. Not all of them. Those wells which would be—which have come into existence by reason of the fact that Lone Star Gas Company has been there as an agency to deliver gas, I have assumed that that development does not exist.

Q. Do you assume that the Company has been in possession of any of the geological investigations that it has made as of the present date, as those apply to its own wells [fol. 1448] or those of other owners of wells?

A. No, sir, I do not.

Q. Has no geological records whatsoever?

A. No, sir.

Q. Has no engineering records?

A. No, sir.

Q. Has no accounting records?

A. Absolutely not.

Q. In fact, it hasn't a scrap of paper of any description or kind?

A. That is correct.

Q. All right. You assume also, Mr. Connor, that it has no personnel and not a single person of the present operating organization?

A. That is correct.

Q. There is no Mr. Griffith, no Mr. Dunn, no Mr. Crawford, no Mr. Hulcy, no Mr. Connor?

A. That is correct.

Q. You assume, do you not, that none of the distributing companies to which the Company now sells gas at the city gates of various towns and cities of Texas and Oklahoma—that none of those companies' distributing systems exist?

A. That is exactly correct.

Q. You assume, do you not, that there are—

A. Except with this exception,—I have assumed that [fol. 1449] wherever a city is sufficiently large to justify the existence of an artificial gas plant prior to the introduction of natural gas, I have assumed that such plants would be in existence and in operation.

Q. Well, now, what towns are those?

A. They are the towns which I have designated in Volume 8 as the towns in Class A and Class B.

Q. On about what page is that? Is that on page 95—pages 94 and 95? The towns shown on those pages in Group A and Group B are Dallas, Fort Worth, Abilene, Cleburne, Denison, Sherman, Waco, and Wichita Falls.

A. No; add to that Corsicana, Greenville, Paris, and Temple.

Q. All right. You assume as of January 1, 1933, that these towns had artificial gas systems, do you not?

A. That is correct; I would have normally, yes.

Q. Now, you say that the Company has as of the date of this appraisal 230 domestic consumers attached to the Company's lines?

A. Approximately 230,000.

Q. Yes, 230,000.

A. Yes, that is correct.

Q. Now, for the purpose of making your appraisal, you assume that none of those consumers are attached except as are attached to the artificial distributing companies in the towns just named?

[fol. 1450] A. That is correct.

Q. Now, in the towns where you assume artificial gas is being furnished for domestic consumption, at what price do you assume that the artificial gas is being delivered?

A. I made no assumption of that rate.

Q. Well, it is a matter of common knowledge that artificial gas is more expensive than natural gas, isn't it?

A. Very much so.

Q. So you assume that even in those towns there is a less number of consumers attached to the Company lines than would be if they were served as of this date with natural gas?

A. That is correct. That is always the case.

Q. Now, you assume, do you not, Mr. Connor, that in order to get ready, as you say, to build this enormous gas system, people would have to go out and find where the gas is?

A. That is correct—convince themselves that it was there, and convince other people that it was there.

Q. There would be considerable doubt at it, wouldn't there?

A. There would be if you would eliminate all of the de-

velopment which has been brought about by reason of the existence of Lone Star Gas Company.

Q. They would have to go and find, would they not, what [fol. 1451] the geology of the fields is where the Company now is buying gas and where it has extensive geological records?

A. That is correct.

Q. They would have to go out and find, even, if customers would attach to the Company's lines, would they not?

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A. They would have to go out? I presume that you mean the men that were proposing to build this property?

Q. Yes sir.

A. They would make definite, complete studies of each and every town which is now attached to Lone Star Gas Company's system, together with other towns which are not attached to Lone Star Gas Company's system.

Q. In these towns where no artificial gas systems exist, what do you conceive of the people there as using for fuel as of the date when the preliminary investigation starts?

A. I think that in these small towns the fuel is largely wood, coal, and oil; some little electricity.

Q. Now, in those instances, of course, you assume that when natural gas comes into those towns there will be a [fol. 1452] great fight with all these other fuels to try to get them on the gas system?

A. No, sir, I assume just exactly what actually happens.

Q. Well, you do assume, do you not, for the purpose of finding your general overheads, and the cost of getting customers attached, and going value, and so forth, that gas—that the use of gas will have to be taught to those people—you will have to drag them away from their coal and their wood and their other fuels, in order to make them attach to your gas system,—isn't that correct?

A. I made no such assumption; I simply took the actual experience of the Company on the rate at which these customers would be attached and at the rate at which they would increase their use of gas.

Q. Well, whether you make your assumption or not for finding your cost, Mr. Connor—

A. But I didn't make any such assumption as you are attempting to put in my mouth.

Q. I am conceding you didn't. I say conceding, for the purpose of my question that you have not included any of the costs of taking consumers away from other fuels, nevertheless if your towns actually do have consumers using nothing but coal and wood and other fuels, you would have that cost, would you not, when gas came in and started competing with the other fuels?

[fol. 1453] A. Now, just what costs—to just what costs do you refer, Mr. Fitzhugh?

Q. The cost of educating the public to use gas, the cost of teaching people that gas is cheaper than other fuels, of convincing them that they must buy gas appliances, and so forth. You understand all those things as well as I do.

A. Yes; but I have made no inclusion of anything of that sort in this estimate of mine.

Q. I understand, but if you were going to be reasonable about it, oughtn't you to include that cost, if you are going to assume for the purposes of your appraisal that all of those people of those towns, except those which have artificial systems, are actually using no gas but instead are using competitive fuels, such as wood, coal, and oil, and so forth?

A. No; I concede that that is an operating expense of the Company, Mr. Fitzhugh, and I am not concerned and have not been concerned, as I view it, with operating expenses of any kind; in fact, I very studiously avoided giving any consideration to anything except expenses or costs which I would construe to be capital costs; and that is an operating cost, pure and simple.

Q. All right sir. Now, Mr. Connor, in the towns where you conceive of the towns having an artificial gas system, but where you say the consumers would be less than as of [fol. 1454] the date of your appraisal, of course, the owners that you conceive as being actually attached to the artificial system would have gas appliances, would they not?

A. Yes; but the estimate which I have made in connection with towns situated as you have described, is based upon the actual experience of the Company in attaching business in the town where such a situation existed.

Q. I understand that, but I am trying to get back to your basic assumptions now, Mr. Connor. You assume that the persons that are attached to those artificial systems do have gas appliances, don't you?

A. Yes, they would have gas appliances.

Q. Now, this number that you say is actually attached as of this date, but who would not be attached to the artificial system, does not even have gas stoves, does it?

A. No, they would not even have gas stoves.

Q. In towns where there are no artificial gas systems—the smaller towns, you conceive of those consumers having no gas appliances, do you not?

A. That is correct. Why should they have them if there wasn't any pipe line in there?

Q. Of course, you have to make that assumption to be consistent; I grant that. You assume further, do you not, that in all towns except those having artificial gas systems, [fol. 1455] or those which you assume have artificial gas systems, that there would be no company affiliated with your company or any other, having a franchise to sell gas to domestic consumers within these towns?

A. I assume, as is clearly set out in the exhibit, that coincident with the construction of the lines by Lone Star Gas Company into the territory in which these towns are located that natural gas distributing systems would be built.

Q. I understand that, but now answer my question,—did you assume, before you did anything in getting a starting point, that in towns where there were none of these assumed artificial systems, that there was no company affiliated with your proposed company that had a franchise to sell gas to domestic consumers?

A. That is correct. I assumed, and I think properly so, that before Lone Star Gas Company was built, that there would be no isolated, unattached natural gas distribution systems located in towns like Midlothian, Round Rock, Hutto, and so forth.

Q. All right, sir. Now, to really get into your exhibit, the first item is Preliminary Development and Organization costs, in a total amount of \$4,474,272.00. Now, you have on your summary sheet, page 8, Volume 7, a number of items which you say make up the Preliminary Development and Organization Costs. Have any of these items [fol. 1456] of expense actually been incurred by the Company in building its properties?

A. You mean Lone Star Gas Company?

Q. Yes, sir.

A. I would say that a number of those expenses have actually been incurred.

Q. Which ones?

A. Well, I think that the originating group of Lone Star Gas Company perhaps received a very substantial remuneration.

Q. What was the amount?

A. I don't know.

Q. How do you know it was actually incurred, if you can not state the amount?

A. Well, I know that the originating group of Lone Star Gas Company transferred leases to the Company at the date of its organization which gave these originators of the project a substantial profit. The leases that they transferred to Lone Star Gas Company and subsequently developed would be very much more valuable than the price at which they were transferred; but, nevertheless, the men that originated Lone Star Gas Company received a substantial remuneration for the exploration services which they had rendered in connection with the development and securing of the gas supply.

[fol. 1457] Q. Can you give—

A. Now, each and every one of these expenses was incurred perhaps in a much less degree than I have estimated here, and I think I have made it as clear as a person could make it that in making a reproduction cost of Lone Star Gas Company as of January 1st, 1933, a company with 4,000 miles of pipe line, 35,000 horse-power compressor stations, taking gas from twenty-five or thirty gas fields scattered over the States of Texas and Oklahoma, was not comparable to those expenses which would be incurred in the initiation of the original Lone Star Gas Company, which was simply one pipe line from the Petrolia Field to the City of Fort Worth.

[fol. 1458] Q. Mr. Connor, you would not expect to find value at the present time by a reproduction method that was inconsistent with the company's historical past, would you?

A. Why certainly; I do not think what has historically occurred in the matter of costs or expenditures necessarily has anything to do with present value, any more than reproduction cost necessarily has anything to do with present value. You can go right out here to the University of

Texas and see a perfect example of that. The University of Texas built Four Million Dollars worth of buildings out there on the campus two years ago, and today to reproduce those identical buildings it would cost you a least Five and a Half Million Dollars. On the other hand, they have a building out there now that they are tearing down, and that building isn't worth anything, but it would cost a lot of money to reproduce it.

Q. Mr. Connor, I don't object to you using and including in your appraisal those items where you have actually had some cost in the past for such items, but my objection is here to you using or including a value for some item as to which the company has had no cost whatever at any time in the past, and where they never incurred any such a cost, and the analogy would be to appraise a building at the University of Texas where the building had never even been built.

A. I don't agree with you.

Q. Well now, has the company ever had any cost of marketing any first mortgage bonds, at any time in the [fol. 1459] past, as you have shown it here?

A. I don't know. They issued some bonds back in the early days of the company, but I don't know what happened back then.

Q. Well, we are trying to take the company as it exists today, are we not Mr. Connor?

A. Yes.

Q. All right then. Now does the company have any first mortgage bonds now?

A. No.

Q. Not a one, does it?

A. No, that's right.

Q. And still you have included in your appraisal here a cost of \$1,430,000.00 for the marketing of first mortgage bonds which the company doesn't even have.

A. That is correct, and if the company today was to reproduced and went out and attempted to secure the funds which would be necessary to reproduce this property, by the sale of common shares, the costs would be substantially in excess of the estimate which I have made for the marketing of first mortgage bonds.

Q. That's your guess?

A. No, sir.

Q. And you have also included in here the costs of marketing preferred stock?

A. Yes, sir.

Q. And does the Lone Star Gas Company at this time have outstanding any shares of preferred stock?

[fol. 1460] A. No sir.

Q. But you have included in here \$855,000.00 for the cost of marketing of a security ~~that~~ it does not even have at this time, have you not?

A. That is correct.

Q. It has no preferred stock at all.

A. That is correct. What the Lone Star Gas Company does have at this time is money invested in pipe lines and equipment sufficient to build this property; it does have that, and that money has been accumulated and gathered together. Now if this property were to be reproduced, that money would have to be secured somewhere, and I picked out the cheapest way to get that money.

Q. Mr. Connor, suppose we had insisted on evaluating some other pipe lines than the ones which the company actually has. You would not think that would be a proper method, would you?

A. What do you mean, Mr. Fitzhugh?

Q. In finding value here, suppose we had tried to evaluate a substitute plant, or the pipe lines of another company, which were 4,000 miles long, rather than to take the actual plant which the Lone Star Gas Company has.

A. I don't think the analogy is correct.

Q. You wouldn't think that is a proper method, would you?

A. No, I would not.

Q. Then why do you insist on taking some other capital structure, which might be applicable to some other company [fol. 1461] than the Lone Star Gas Company as it exists today?

A. Why, for the reason that I have just stated, Mr. Fitzhugh—that I think that would be the cheapest way the Lone Star Gas Company could gather together and secure, for the purposes of constructing its property, the amount of money that would be required to do it.

Q. Just what is the capital structure of the Lone Star Gas Company at this time?

A. I don't know, Mr. Fitzhugh, except that it consists entirely of common shares.

Q. The shares are no-par shares, are they not?

A. I think that is correct.

Q. Do you know how much has actually been paid in?

A. How do you mean—actually paid in?

Q. As representing those common shares, in money or in property?

A. No, I do not.

Q. Haven't you made an investigation of the books on that particular point, Mr. Connor?

A. No, sir; I do not see what that would have to do with the cost of reproducing the property.

Q. You do know that the amount is around \$12,500,000.00 for the amount actually paid in, do you not?

A. No sir, I do not.

Q. Of this total of \$4,474,272.00, what proportion actually shows on the books of the company?

A. I don't know. In amplifying my answer to your question, I would say that an engineer making a reproduction [fol. 1462] cost estimate of a property of this kind, would be hard put to make an estimate, if something had happened to the books of the company, according to your theory as expressed by your questions to me.

Q. Yes, but nothing has happened to your books, has there, except what you have done to them? Isn't that right? Your books are in good shape, aren't they?

A. I presume that the books and records of the Lone Star Gas Company are in good shape. I know the engineering records of the company are in good shape.

Q. But you have not seen fit to avail yourself of the books, to assist you in computing any of the costs?

A. No sir, because I do not believe the costs of the Lone Star Gas Company as reflected by its books would be the manner in which—or an inspection of those costs or the analysis of those costs, would be the rational manner in which to proceed with an engineering estimate of what it would cost to reproduce the property.

Q. All right. Take up your first item now, preliminary geological investigation, which you show in the amount of \$114,444. The time required for this investigation, you say, would be six months, or 180 days. Isn't that right?

A. Yes.

Q. Now, you assume that you would have three parties or rather, four parties, out making that preliminary investigation. Is that correct?

A. That is correct, as is shown on page 20 of Volume 7.

Q. You would have a chief geologist in each group? [fol. 1463] A. No, just one chief geologist.

Q. Well, you would have one geologist in each group, with a chief geologist over the whole; is that right?

A. That is correct.

Q. And the chief geologist would draw \$100.00 per day and expenses; is that right?

A. That is correct.

Q. And a geologist in each of the parties, who would draw \$35.00 a day and expenses?

A. That's right.

Q. And an assistant geologist in each of the four parties would draw \$25.00 a day and expenses?

A. That is correct.

Q. And an instrument man in each party would draw \$20.00 a day and expenses?

A. That is correct.

Q. Now, where would these men be during the 180 days that you have figured would be consumed in doing this work?

A. They would be—or they would cover the territory in Southern half of the state of Oklahoma, and practically all of the State of Texas, and a part of the state of southeast New Mexico.

Q. Well, you don't have any wells in New Mexico do you?

A. No sir.

Q. But they would be out there looking for gas, just the same?

A. They would make an investigation of the entire territory; that is correct.

Q. Now these parties working in Texas—that is, the one [fol. 1464] assigned to the Texas Panhandle, and West Texas and Northern Mexico, and all other areas, would cover practically the entire state, wouldn't they?

A. Except the Gulf Coast section.

Q. Why not the Gulf Coast—is that too far away?

A. Too far away from the markets.

Q. Now, you assume that this field party going to the Texas Panhandle would not know a thing about the company wells that have already been drilled in the Panhandle?

A. No, not if the property of the company is going to be reproduced; they wouldn't be there.

Q. Would they be right sure that there was a gas field there, even?

A. They might, but they would want to find out a good deal about that gas field.

Q. To what extent would they know of the geological investigations of other companies?

A. Why, they would necessarily inform themselves with reference to all information which was available, and I have assumed that all of that information would be available, except as to the development which has taken place by reason of the Lone Star Gas Company's historical operations.

Q. Now your company operates in the Leeray field, in West Texas, practically exclusively, taking care of that field, does it not?

A. What do you mean, Mr. Fitzhugh, practically exclusively?

Q. Well, there are no other pipe lines except yours running into that field, are there?

[fol. 1465] A. No; no major transportation line.

Q. Practically all the wells drilled there are company wells, are they not?

A. Yes, a very large per cent of them.

Q. I suppose you would assume as to that field that nobody knew that field existed, would you not?

A. My assumption is as I have stated it; that so far as the development has been the result of the operations of Lone Star Gas Company, I think I have been consistent in assuming that such development did not exist, because the company does not exist if it is to be reproduced.

Q. But the company was responsible for the development of the Leeray field, wasn't it?

A. Yes, it has developed the geology of the Leeray field, and I think it is entitled to credit for that work.

Q. So, in that case you would not assume anything at all was known about the Leeray field, would you?

A. Very little, from the gas standpoint.

Q. Would you assume they knew anything?

A. Yes, there would be some geological information, because quite a bit of oil has been developed in that territory.

Q. But so far as gas is concerned, where the company has done all of the gas development—all of that, you assume, would be absolutely unknown?

A. That is correct.

Q. Now Mr. Connor, you testified on direct examination in giving your qualifications that you are not a geologist?

[fol. 1466] A. That is correct.

Q. And that you have had very little experience with drilling?

A. That is correct.

Q. Now, how do you know what the costs incurred in doing geological work would be?

A. Well, in the first place, I have seen these costs actually incurred by reason of my connection with other companies, going through exactly the period for which I have made an estimate for Lone Star Gas Company.

Q. Didn't you testify in the hearing before the Commission, Mr. Connor, that for finding similar expenses for this particular work, that you consulted with somebody?

A. Certainly, and I have not finished my answer yet, either. I am going to repeat that same thing here.

Q. All right.

A. In my work in connection with the preparation of certain portions of this exhibit, I consulted with men connected with the Lone Star Gas Company who were best qualified to give me definite information relative to what I wanted to know, and in connection with the geological work, I conferred and consulted and worked with Mr. Frank Kendrick, the chief geologist of the Lone Star Gas Company, who is perhaps more familiar with the Leeray territory and the Shamrock territory than any other natural gas geologist in the state of Texas.

Q. In picking out the type of man that you would have working as a chief geologist, I suppose you took a man of about Mr. Kendrick's caliber, didn't you?

[fol. 1467] A. I don't know that under the conditions which would be met with in the making of a preliminary geological investigation of this kind, that you would be so fortunate as to get a man as well qualified as is Mr. Frank Kendrick; but the estimate of the rates of pay which I have used in this estimate, is based upon the per diem fees which are charged by reputable, nationally known geological organizations, who put their man into the field and do specific work for their clients, as distinguished from a regularly employed geologist connected with the company. Just like Mr. Freese, in representing his engineering firm on an investigation, would charge a per diem for his services which would be higher than the rate of salary which would be paid to a regularly employed engineer of some company.

Q. Well, is there any reason, Mr. Connor, why this geologist should not be regularly employed?

A. Yes.

Q. He will not only do this investigating work, but any other geological work from the time he starts, and which you say is necessary on through the operation of the company, after the properties are constructed?

A. Well, that is not the way those things are done, Mr. Fitzhugh, and that is not the way it would be done.

Q. Well, Mr. Kendrick at this time does not get any Hundred Dollars a day and expenses for his work for the company, does he Mr. Connor?

A. Absolutely not, and neither does the geologist which I estimate would be regularly retained by the company get [fol. 1468] any such fee, but here are some men who want some specific information before they organize the corporation. What would they do? They would go to a geological firm which is equipped to render those services; those men don't work every day in the year at that price, but that is the regular cost of a high class geologist working under the conditions under which he would have to work in reproducing Lone Star Gas Company in connection with the preliminary geological investigation.

Q. Did Mr. Kendrick also give you the 180 days working time for those four field parties?

A. Mr. Kendrick outlined what he considered would be the time required to do this work, and the personnel which he thought would be necessary to develop the information that I have outlined.

Q. Did he give you the 180 days working time?

A. I just said that he did?

Q. You say he did?

A. He did.

Q. Mr. Connor, did Mr. Kendrick also give you the firm fee of ten per cent, or a cost in the amount of \$10,404.00, which is included as part of your estimate?

A. No, sir.

Q. Where did you get that?

A. I got that as a result of my experience in matters of this kind.

Q. Where a per diem and expenses are the mode of pay on investigations of this sort, Mr. Connor, have you ever [fol. 1469] heard of an addition being made for profit.

A. I have never heard of anyone yet who did not include a firm fee.

Q. Isn't that usually included as part of the per diem?

A. No sir, it is not.

Q. Your next item, I believe is preliminary engineering investigation, in the amount of \$46,695.00. In this set up you include a chief engineer in charge, ninety days at \$100.00 per day and expenses, do you not?

A. Yes.

Q. Four office engineers, at 360 days each, at \$35.00 a day and expenses?

A. That is correct.

Q. In field expenses, you have a field engineer at sixty days, \$50.00 a day, and another field engineer 45 days at \$50.00 per day?

A. Yes.

Q. And field engineers, 325 days at \$25.00 per day, and that is plus expenses in all cases?

A. That is correct.

Q. Now Mr. Connor, who gave you the number of days and the per diems to apply to the labors of these men?

A. No body.

Q. Where did you get it?

A. From my own experience in doing this exact type of work.

Q. Where you worked as a chief engineer in charge, Mr. Connor, do you get a per diem of \$100.00 per day and expenses?

A. For the last ten years, I don't think I have ever [fol. 1470] worked for any less than that, on work of this character.

Q. Well now, just to summarize the work done by these people, they go out, do they not, Mr. Connor, and just look over the general topography of the country, and make an estimate of what pipe lines will be necessary to connect up with the gas fields as found by the geological parties, to get to the markets?

A. That is correct. So far as their estimate or design or layout of the system, that is preliminary altogether, and it is only gotten up in sufficient detail to give the people who are interested in the project an approximate idea of what the total ultimate cost of the construction will be. I have made numbers of estimates of that character, and they are in every case preliminary in their nature. Now the studies with reference to the towns and the probable

sales which can be secured from the towns, would be more in detail than the estimate of the pipe line construction.

Q. You did not attempt to check this item of expense back against the actual cost records of the company, any more than you did the preliminary geological, did you?

A. No.

Q. You have also included detailed geological work for one year, in an amount of \$78,420.00?

A. That is correct.

Q. Where you have included in your detail on page 31 office rent, what is the source of your figures on that?

[fol. 1471] A. That is merely an estimate of the rental of the space which would be required to house the chief geologist and the men that he would have in the Dallas office.

Q. Where you include telephone and telegraph at \$50.00 a month, and supplies at \$100.00 per month, is that likewise simply an estimate?

A. That is an estimate, yes.

Q. You don't have any facts to apply back to that or fall back on to verify those figures, have you?

A. No, other than that I think they are reasonable.

Q. You don't have any idea of what telephone calls or telephoning would be done, or what the average number of long distance calls would be, have you?

A. No, but there would be quite a number of long distance telephone calls.

Q. Now, just to generalize, Mr. Connor, what does this group do?

A. This group is the engineering organization which would be necessary in order to reproduce the geological records now in possession of Lone Star Gas Company, and as developed in the subsequent sections of the estimate, this organization is continued through the construction period, for it is estimated that such an organization would be required during the preliminary and organization period as well as the construction period, in order to reproduce the geological records and information in possession of the Lone Star Gas Company as of January 1, 1933.

Q. It is not the purpose of this organization, is it Mr. [fol. 1472] Connor, to take any other data found by the people working and already included by you as a part of the preliminary geological investigation?

A. Oh, yes.

Q. And work from those records?

A. They would have possession of all the information developed by the other parties.

Q. In addition to that, what else would they have?

A. They would have available such geological information as would be or as could be secured by them from sources other than that information which has been developed and secured by reason of the existence of the Lone Star Gas Company.

Q. This is the same sort of work that is now still being done by the company, is it not—keeping up the geological records of the company?

A. Yes, they have a small organization now, in the office, which is engaged in doing current geological work which is necessary for the operation of the company.

Q. Are you aware of the fact, Mr. Connor, that Mr. Huley in his accounting exhibits already introduced, has included as an operating expense, the cost of currently keeping up the geological records?

A. I presume that Mr. Huley has included as a part of his operating expenses, such part of Mr. Kendrick's time and his assistant's time, as are properly chargeable to operating expenses.

Q. And further more, do you not know it to be a fact, Mr. Connor, that the cost of doing this sort of work has in [fol. 1473] the past been charged to operating expenses, and not capitalized on the books of the company?

A. I don't know to what extent the past history of the Lone Star Gas Company's operations would disclose the capitalization of geological expenses. I doubt very seriously if any of that expense has been capitalized during the past year.

Q. Now, if that is correct, Mr. Connor, that there has been no capitalization of this type of expense on the books of the company, but that in the past it has been charged entirely to operating expenses, if the same was to be done in the future wouldn't the inclusion of the operating expenses in Mr. Huley's exhibit and the inclusion of the same type of thing in your appraisal be a duplication?

A. No, not if the expenses and work which Mr. Kendrick and his assistants have done during the period covered by Mr. Huley's operating analysis are properly chargeable to

operating expenses. Now, if they were properly charge-able to capital account, and then had been included as an operating expense, I would say that the operating records of the company should be adjusted to that extent, but in making a reproduction cost estimate of the property and business of Lone Star Gas Company as it existed as of January 1, 1933, I was in no way controlled or influenced by the manner or means by which Lone Star Gas Company came into possession of the property which I appraised. They might have charged the office building to operating expense, for all I know, but in making a reproduction cost estimate of the property and business of the company, I think an engineer would be required to place the reproduction cost value, or cost estimate, upon that structure no matter how it had been acquired.

Q. You have included in this estimate all the costs necessary to reproduce the geological records of the company that were acquired during 1931 and 1932, have you not?

A. Well, I don't know just what geological records were acquired or what portion of the total of such records were acquired in that period of time, Mr. Fitzhugh. I included in this estimate, of course, the geological records in possession of the Lone Star Gas Company as of January 1, 1933.

Q. One Hundred Per Cent?

A. That is correct.

[fol. 1475] Q. Now, Mr. Connor, the next three things appearing in your Preliminary Development and Organization Costs are Fiscal Agents geological checking, Fiscal Agents Engineering checking, and Fiscal Agents title certification. All these items are in addition to the ones we have been talking about heretofore, are they not?

A. Yes.

Q. As a matter of historical fact, Mr. Connor, the Company has never had the need of a fiscal agent, have they?

A. Yes, I think they have.

Q. Who was the fiscal agent?

A. I think the Lone Star Gas Corporation—

Q. I am talking about the Lone Star Gas Company.

A. I am talking about the Lone Star Gas Company, too.

Q. All right; what about it?

A. They have availed themselves of the credit extended by Lone Star Gas Corporation.

Q. Well, do you mean by that that the Lone Star Gas Corporation is the Lone Star Gas Company's fiscal agent?

A. It has acted historically in that capacity.

Q. You have not assumed here that the payments would be made by the Lone Star Gas Company on this organization to the Corporation, have you?

A. No, sir;. You simply asked me what happened historically, —

Q. Yes, sir.

A. —and I gave you what I thought.

[fol. 1476] Q. Why didn't you assume, Mr. Connor, that the company would be organized just as it is organized, as a subsidiary of Lone Star Gas Corporation?

A. Because I think it is proper to make the estimate upon the basis of the reproduction of this particular property without reference to its connection or affiliation with any other property or properties. I don't know that that relation would affect the cost of its reproduction in any particular.

Q. You would not hardly expect if you had anticipated the organization to be exactly as it is now, with the Lone Star Gas Corporation the holding company for the Lone Star Gas Company, that there would have been any charges under those conditions for the Corporation acting as a fiscal agent, would you?

A. You are asking me now to make an assumption, in connection with using the Lone Star Gas Corporation as the fiscal agent for Lone Star Gas Company in the reproduction of this property; is that the idea?

A. If they actually do, as a matter of historical fact, act as the Lone Star Gas Company's fiscal agent, yes, sir?

A. Well, in that case, we would simply have an intermediary between the Lone Star Gas Company and some other concern which would have to furnish the money, and I don't see where a situation of that kind would tend to reduce the estimated cost of reproduction.

[fol. 1477] Maybe I can get at it this way. Have you ever had any cost for fiscal agent title certification?

A. The Lone Star Gas Corporation has.

Q. Well, has the Lone Star Gas Company?

A. I couldn't tell you.

Q. You say the Lone Star Gas Corporation has. What was the amount of that?

A. I don't know.

Q. Did you attempt to find out?

A. No; I didn't even include in my estimate of the cost of marketing these securities the incidental expenses to which Lone Star Gas Company would be put when it marketed its debentures or its preferred stock.

Mr. Griffith: You mean Lone Star Gas Corporation?

A. Yes; Lone Star Gas Corporation. Now, Lone Star Gas Corporation incurred substantial costs in connection with the marketing and issuance of those securities, which I have not included, and which were in addition to the direct brokerage expenses which I have included.

Q. Now, in your item, Undistributed Production Expenses, you have on page 46 a cost of wells in the Leeray Field; for example, you estimate the cost per well of wells in the Leeray Field to be \$25,382.00 per well?

A. That is right.

Q. And there are fifteen wells?

[fol. 1478] A. That is correct.

Q. Where did you get the number of wells?

A. The number of wells which I have used was given to me by Mr. Frank Kendrick. The cost of the average well in the Leeray Field was taken from Mr. Biddison's estimate.

Q. Mr. Biddison's?

A. Yes. In order the cost of wells, which I have estimated on page 46, may not be misinterpreted, you understand, I am sure, Mr. Fitzhugh, that none of this cost has been included in my estimate as a part of the Preliminary Development and Organization Expenses.

Q. Yes; I understand there has been a deduction of this in Mr. Huley's Exhibit?

A. No; that has no relation to that, Mr. Fitzhugh.

Q. Where was the deduction made?

A. This has never been included in my estimate as a part of the Preliminary and Development Costs. I merely set it out at this point in the appraisal to indicate what out-of-pocket expenses the originators of a project of this kind would be put to before they were assured that those expenses would be reimbursed. Now, Mr. Biddison has included in his estimate the reproduction cost of these wells,

and they are merely inserted at this point in my estimate to indicate certain expenses which would be incurred by the originating group, and they are not included as a part of the expenses of organization and preliminary costs.

[fol. 1479] Q. I understand that, but, Mr. Connor, you took the total for the cost of these wells and applied to that a percentage which you carried forward to your summary sheet on page 8 and included as a part of your Preliminary Development and Organization Costs in the amount of \$39,944, did you not?

A. Yes; I did; and I think that Mr. Biddison, likewise, deducted that amount from the estimate of the general and undistributed costs applicable to gas well construction and equipment, which I furnished him. In other words, Mr. Biddison eliminated that amount from his gas well construction and equipment which I furnished him, in order that there might be no duplication on that item.

Q. Well, anyway, this thirty-nine thousand dollar amount—practically forty thousand dollars—is based on the computation shown on page 46, and which computation includes these Leeray wells, fifteen of them, at \$25,382.00 a well?

A. That is correct. The way that figure was arrived at, Mr. Fitzhugh, was simply to determine what proportionate part of the reproduction costs of gas well construction and equipment was represented by the costs of general supervision which I estimated for Mr. Biddison. Having made that determination I applied that percentage to this \$1,079,555.00. Mr. Biddison's figures on page 5, of Volume 1, specifically excluded that item of thirty-nine thousand dollars.

[fol. 1480] Q. All right. Now, the next item is Organization and Corporate Expenses, one hundred and forty-one thousand dollars plus. Now, that is based upon a capitalization of thirty-eight million dollars worth of bonds, nineteen million dollars worth of preferred stock, and common shares in the amount of seventeen million dollars?

A. That is correct.

Q. The total capitalization then would be seventy-four million dollars?

A. No; I don't think the bonds would be included in the capitalization.

Q. Well, the total amount raised by those issues would be seventy-four million dollars?

A. That is correct, yes, sir.

Q. On page 50 you assume that the attorneys' fees for the fiscal agents and the originating group would be forty-five thousand dollars?

A. Combined, yes, sir.

Q. Now, where do you get that?

A. I base my estimate for the charge made by the attorneys for the fiscal agents upon expenses that I had seen incurred under similar conditions, and involving amounts considerably less than the issue contemplated in this estimate.

Q. Further down in your recapitulation on page 50 you show items for printing mortgage, recording mortgage, and [fol. 1481] engraving bonds. Those items together are around twenty-five thousand dollars, are they not?

A. Yes.

Q. And in addition there is Federal Tax on Bonds, \$19,000.00?

A. That is correct.

Q. And Trustee's fees in connection with the bond issue also, are there not?

A. Yes; the Trustee's fees would be in connection with the issue of the bonds.

Q. Now, all those fees you included, notwithstanding the fact the Company at this time has no bonds outstanding?

A. That is correct.

Q. Now, your last item is remuneration for the originating group in the amount of two million dollars. Another name for that would be promoter's fees; is that right?

A. It is so described by the Interstate Commerce Commission in its definition of what constitutes a proper capital item covering organization and preliminary expenses, yes.

Q. Whom did you assume would be the promoters of this company to be organized?

A. Of course, I did not arrange a cast of characters as the basis for this estimate; but I would naturally have in mind that men of the type and ability and experience, such as Mr. George Crawford of Pittsburg, and Mr. L. B. Denning of Dallas, men of that type and that standing in the [fol. 1482] natural gas industry, would be the type of men who would be required to originate and bring into being an enterprise such as the Lone Star Gas Company.

Q. This two million dollars is just a sort of lump sum proposition, then?

A. That is correct.

Q. What instances can you refer to, Mr. Connor, of actual organization of a company where promoter's fees were paid in an amount as large as this—for the organization of a public service corporation similar to the Lone Star Gas Company?

A. I don't know, Mr. Fitzhugh, of a company organized as the Lone Star Gas Company would be organized in reproduction,—

Q. Mr. Connor, would you mind stepping over where you can see this blackboard?

Mr. Griffith: Had you finished your answer, Mr. Connor?

Mr. Connor: No, sir.

A. I was going to state that I had seen fees and remuneration substantially in excess of the amount set out in this estimate when the size of the property was taken into consideration.

Q. Now, have you finished?

A. Yes.

Q. Now, Mr. Connor, the first mortgage bonds are to be [fol. 1483] in what amount under the capitalization, as you imagine it?

A. Thirty-eight million dollars par value.

Q. Thirty-eight million?

A. Yes, sir.

Q. The preferred stock is in what amount?

A. Nineteen million dollars par value.

Q. And the common in what amount?

A. Well, they would have to secure seventeen million dollars approximately from the sale of common shares.

Q. Now, the total capitalization of that is how much—or the total that would raise?

A. The total capitalization would be thirty-six million dollars.

Q. Well, you are organizing a company where you would get thirty-eight million dollars for first mortgage bonds?

A. That is correct.

Q. And nineteen million dollars from preferred stock?

A. That is correct.

Q. And seventeen million dollars from common stock?

A. That is correct.

Q. In other words, your company, after you got all those amounts, would have seventy-four million dollars in it?

A. No; it would not.

Q. How much would it have?

A. It would depend upon the discount at which those [fol. 1484] securities would have to be offered in order to secure their sale.

Q. Well, if there is any discount you figure that is going into the rate base when you find the rate base on a reproduction cost new basis?

A. Absolutely not.

Q. Aren't you suggesting to the jury that they find that the amount of discount in connection with the sale of bonds, preferred stock, and so forth, be included in the rate base as found by the reproduction cost new method?

A. Absolutely not. If reference is made to page 55, Volume 7, Defendant's Exhibit 28, the following language is found: "Discounts on security issues, however, unlike the direct costs of assembling capital, do not represent out-of-pocket expenditures. Furthermore, discount to a greater degree than marketing costs reflects the credit rating of the organizers of the issuing companies, and the coupon rates of the securities issued. In the final analysis, discount is simply an increment above coupon rates of interest, and as such, reflects the cost of money as measured by interest charges. For these reasons, discount on security issues is not a proper element in a rate-base and it is, therefore, omitted in this appraisal as an element of the reproduction cost of Lone Star Gas Company as of January 1, 1933."

[fol. 1485] Q. All right; then, how much money would the Company actually get in its pockets from the sale of its thirty-eight million dollars par value of bonds?

A. It would depend, as I said before, Mr. Fitzhugh, on the discount which would be necessary in order to secure the sale of those securities.

Q. Well, assume, Mr. Connor, that they sold the bonds at par, then they would get the full amount?

A. That is correct, but I don't believe the bonds could possibly be sold at par.

Q. Well, what do you assume they would be sold at?

A. I think they would be luck- to get 90 for those bonds.

Q. To get 90?

A. Absolutely.

Q. How much do you figure the company would raise then by the sale of these thirty-eight million dollars worth of bonds?

A. If you wish to make the calculation, you have the chalk; you can multiply 38 by 90.

* * * * *

[fol. 1486] Q. Mr. Connor, you figure that the sale of those securities will be sufficient to build the property, do you not?

A. Not necessarily.

Q. What would be the purpose of selling them, then?

A. I think that that amount of securities would be issued in the first place based upon the information which would be in the possession of the originating group at that time.

Q. Well, wouldn't the sale—suppose that you obtained thirty-eight million dollars represented by the first mortgage bonds, nineteen million represented by the preferred stock, and seventeen million represented by the common; that would be plenty to build the property, wouldn't it?

A. I don't know. I think the practical and actual thing, of course, which would take place would be that the two senior issues would go out in just about that amount and whatever difference was required would be secured and provided by the people who were constructing the property.

Q. Mr. Connor, the grand total for your whole appraisal as found by yourself and Mr. Biddison is only \$73,983,405.51, while this amount totals up to seventy-four million. Doesn't that show that if you got all the cash for these securities in the amounts that you have named that you would have enough to build your properties?

A. If you got par value for all of them, you would; yes.

[fol. 1487] Q. All right. Now, taken them as you found them—I'll draw that line across here to show I don't mean that to be an addition. Now, you have testified heretofore before the Commission and other places that the return allowed a public service corporation, after deducting all necessary amounts for operating expenses and depreciation, should be at least ten per cent, have you not?

A. I said that for a natural gas pipe line, yes; not for all public service corporations, no.

Q. All right, sir. On this particular property you figure they ought to get at least ten per cent, do you not, as return?

A. I don't think that Lone Star Gas Company or any other natural gas company could earn ten per cent at this time. I think that, in view of the nature of the business and the hazards involved, a return of ten per cent to the investors in a natural gas property is a reasonable return.

Q. All right. Now, if you earn on this amount ten per cent, what does that figure out to be?

A. \$7,398,000 plus.

Q. Now, then, Mr. Connor, what is the interest rate on these bonds?

A. 6.5 divided by .9.

Q. Divided by what—6.5?

A. 6.5 divided by .9.

Q. Why do you say that?

A. Because that is what the money would actually cost.

Q. I see. You are adding to the price at which they would [fol. 1488] sell the price which they would be paid when the end of the term comes?

A. No; I am estimating what I think would be the actual out-of-pocket interest cost in connection with a sale of this kind.

Q. All right. How much would it be, then?

A. 7.22 per cent per annum.

Q. Now, this group of first mortgage bonds has a six and a half per cent coupon?

A. Yes, but that is not the measure of what the interest rate would be to the people who issued it.

Q. Well, that is what the interest rate will be, so far as the people who will have to pay per annum are concerned?

A. Absolutely.

Q. Well, Lone Star Gas Company won't have to pay but six and a half per cent on thirty-eight million per annum?

A. No, but you are asking what the interest rate would be, and I was telling you it would be 7.22 per cent.

Q. I am talking about the coupon interest rate now?

A. That is correct.

Q. Six and a half. How much would that amount be?

.

A. \$2,470,000.00.

Q. Now, the preferred stock bears eight per cent interest rate, does it not?

A. Yes, that is correct.

[fol. 1489] Q. How much would it require per annum to take care of that?

A. \$1,520,000.00.

Q. Now, then, if a return be had by the company of this amount at ten per cent per annum, and \$7,398,340.00 be the return after deduction of depreciation and operating expenses, what is the amount left for the common?

A. The difference between the sum of those two top figures and the total that you have at the bottom, assuming that the company was earning ten per cent on the valuation.

Q. How much is that?

A. Somebody calculate that.

Mr. Freese: \$3,408,000.00.

Q. Now, do those add up right? Is that right?

A. I presume that it is.

Q. Now, then, if this amount should be left for the common, Mr. Connor, for the common stock, earnings per annum, what would be the per cent the common would be earning on the amount of seventeen million?

A. Approximately twenty per cent.

Q. Twenty per cent plus, isn't it?

A. That is correct.

Q. All right. Now, that completes the picture. In other words, if you have thirty-eight million dollars' worth of mortgage bonds at six and a half per cent, the interest requirements on that per annum will be \$2,470,000.00; preferred stock of nineteen million dollars at eight per cent, the requirements for that will be \$1,520,000.00. Then, if ten per [fol. 1490] cent be assumed as the rate of return upon the value of seventy-three million dollars as found by you in Exhibit 28, the total amount left for the common stock would give it a twenty per cent return per annum?

A. That is correct, assuming that the rate base was undepreciated and the company earned ten per cent per annum. Now, let me ask you, Mr. Fitzhugh, to make a calculation in which the company might earn six per cent instead of ten per cent on the rate base which you set out there and make a determination of what the earnings of the company on the common stock would be.

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Q. You have not testified that any six per cent return would be proper?

A. No, sir.

Q. You want to fix up a rate that will make twenty per cent on the capital and common, don't you?

A. No, sir. And I don't think anybody else I have ever heard of has attempted to make an application of a rate of return except on the over-all value of the property. I have never heard in any case, reported or otherwise, where an attempt has been made to segregate issues of the financial structure of a company and determine what rate of return is being earned on proportionate parts of it.

Q. On this set-up, Mr. Connor, you assume that the thirty-eight million will be sold to the public?

A. Sold to somebody.

[fol. 1491] Q. I am talking about the thirty-eight million dollars represented by the first mortgage bonds, that they will be sold to and held by the public?

A. Sold to and held by people who invest in securities of that kind.

Q. And that the nineteen million represented by the eight per cent preferred stock will be sold to and held by the public?

A. Yes.

Q. And under that set-up only seventeen million dollars would be the amount represented by the company's interest?

A. That is correct.

Q. So for only seventeen million dollars in your hypothetical set-up you fix the thing up so they would get a twenty per cent return on it per annum?

A. If they could earn it.

Q. Yes, sir. Well, they are earning it, aren't they?

A. Who?

[fol. 1492] Q. A company on this sort of a set-up.

A. Well, Lone Star Gas Company is not earning enough to pay the fixed charges on these bonds that you have shown there.

Q. Well, what is the use of fixing up a hypothetical set-up that has no basis in reality, Mr. Connor?

A. Well, because Lone Star Gas Company is not under its present rates earning any money, is that any reason it should not earn any money?

Q. No; but where your company has no bonds and no preferred stock, is that any reason why you should set up a hypothetical company that assumes false conditions?

A. I set up, Mr. Fitzhugh, a method of securing the money which would be required to construct the property and business of Lone Star Gas Company at the cheapest—upon the basis of the cheapest method which could be devised, just exactly like Mr. Biddison, in making his estimate of the reproduction cost of the physical property, used the equipment which would result in the cheapest possible construction costs; Mr. Biddison did not go back to the history of this company and find out what those pipe lines cost; if he had, his estimate of the reproduction cost of the physical property of Lone Star Gas Company would have been substantially increased.

Q. Now, Mr. Connor, in your set-up here for some of these [fol. 1493] first mortgage bonds—which you admit do not exist at all—

A. That is correct.

Q. —you have put in here \$1,140,000.00, have you not?

A. Yes, sir.

Q. And that, along with the \$855,000.00 for the preferred stock, which have been included in your total values—

A. In my estimate of the cost of reproducing this property.

Q. Yes, sir. Well, those two have been included at the hundred per cent amount in your value as found by Exhibit 28, have they not?

A. In my estimate of the cost of reproducing the property and business of Lone Star Gas Company.

Q. Yes, sir, in the total value as found in your summary on page 8 of this exhibit?

A. If this sheet which I have before me properly reflects what is found on the summary sheet, page 1, the text or the language of that summary is Cost of Reproducing New Public Service Plant, Property, and Business.

Q. All right. Does that total cost, now, for that include this million and however many thousand dollars for the sale of the first mortgage bonds and the \$855,000.00 for the preferred stock?

A. That is correct.

Q. Now, your next section shown on your Summary Sheet, page 71, Volume 7, are the Undistributed General Costs.

[fol. 1494] A. Which page is that?

Q. Page 71, Volume 7, Exhibit 28.

A. That is correct.

Q. \$503,487.00 represents the total for your Administrative and Legal Costs, Executive Section.

A. That is correct.

Q. The salaries are substantially over half of the total amount, being \$397,925.00.

A. That is correct.

Q. How did you find these salaries, Mr. Connor?

A. I estimated those salaries upon the basis of what I thought it would take to secure the type of men who would be capable of administering the affairs of Lone Star Gas Company during the period of its reproduction.

Q. Under that set-up the President would receive \$40,000.00 per annum.

A. That is correct.

Q. The Vice-President and General Manager, \$30,000.00 per annum.

A. That is correct.

Q. The Vice-President and General Counsel, \$20,000.00 per annum.

A. Correct.

Q. The Secretary and Treasurer and the Assistant to the President, \$18,000.00 and \$12,000.00, respectively.

A. Correct.

[fol. 1495] Q. Mr. Connor, don't you think those salaries are unreasonably high?

A. No, sir, I do not.

Q. Has the Executive Section during this period of depression been earning any prices like that per annum?

A. I am not acquainted with the salaries of the gentlemen in the Executive Section of Lone Star Gas Company.

Q. Did you make any investigation at all as to the prevailing salaries?

A. I didn't think that that was particularly a matter of my business.

Q. Well, how do you know, Mr. Connor, without making investigation of this company or some other company what the prevailing salaries for executives of the type you say the Company has, actually are at the present time?

A. I have a pretty good idea of what it takes to secure men capable of doing the things which would necessarily be required of the executives of a company similar in all respects to Lone Star Gas Company in the process of reproduction. I believe that in a matter of this kind the most expensive and

extravagant thing that could be done would be to secure men whose ability did not measure up to the responsibilities which would be placed upon them. I am perfectly aware that it would have been perhaps much easier for me to sit at this [fol. 1496] table and explain salaries which I do not believe would secure those men; but I was not going to put into this estimate anything except what I thought was reasonable and right and which would actually be paid in connection with work of this character.

Q. On the next page—page 92, you have included the expenses of running four Packard cars, with two chauffeurs at \$100.00 per month each, and expenses, for the use of the Executive Section. What makes you think, Mr. Connor, that four cars would be necessary for the use of the Executive Section?

A. Well, the executive officers of this company during the period of construction would be required to be all over this State at various times.

Q. Why would they have to be in Packard cars?

A. Well, because I think that that is the type of equipment that the president of a company of this kind should have.

Q. And why would they have to have two chauffeurs, Mr. Connor?

A. Because men who have reached the point where they are able to administer the affairs of a company as large as this would be, are not, as a rule, young men, and it would be an extravagance of the worst kind to assume that these men engaged in directing the affairs of this company during its construction period would be called upon to drive their own [fol. 1497] automobiles, and diminish their efficiency to that extent.

Q. Why do you assume, Mr. Connor, that the first Packard listed would depreciate 25 per cent per annum—per year, and that the next one would depreciate 33 per cent?

A. Because the two cars would be used somewhat in different classes of work.

Q. You mean one would travel rougher roads than the other?

A. That is correct. The car which would be largely used by the Vice-President and General Manager would receive considerably heavier treatment than the other car.

Q. Aren't you mixed up on that, Mr. Connor; isn't the difference in the per cent on the mileage—based on the mileage?

A. Well, that is true, and the General Manager's car would be used more extensively than the other car.

Q. And that is the reason you have got the 33 per cent on it?

A. Perhaps that is correct.

Q. All right. Now, in addition to the President receiving, under your set-up, \$40,000.00 a year pay, he gets \$750.00 a month for expenses, does he not?

A. No, he doesn't get that for his expenses; certainly not.

Q. Well, the traveling expenses.

[fol. 1498] A. It is estimated that he would incur expenses in that amount.

Q. And they would be paid for by the company?

A. Most certainly.

Q. At the rate of \$750.00 a month?

A. No, not necessarily. That is an estimate of what those expenses would be.

Q. Well, that is what you show in your schedule on page 92, isn't it?

A. Yes, but I don't want you to misinterpret the intent and purpose of that schedule. It is not an additional remuneration for the President of the company, and if I had left your question stand as it was asked, that impression would have been left.

Q. Well, call it what you will, you have included \$750.00 per month for the President for his expenses—

A. That is correct.

Q. —as a part of the total that you put into the appraisal?

A. That is correct.

Q. And for the Vice-President, \$300.00; the Vice-President and General Counsel, \$200.00; the Secretary and Treasurer, \$150.00; the Assistant to the President, \$200.00; and the Assistant Secretary, \$150.00 a month, all for expenses?

A. That is correct.

[fol. 1499] Q. How do you figure, Mr. Connor, that the President is going to spend any such amount as \$750.00 a month for nothing but expenses—just traveling expenses?

A. The President of Lone Star Gas Company during the period of construction would be called upon to travel to Pittsburgh, to New York, to Chicago, frequently; in fact,

he would be almost continuously engaged in that sort of work during the earlier part of the construction of this property.

Q. Well, Mr. Connor, the President isn't any more a traveling man than the other executive officers, is he?

A. Yes, I think he is.

Q. Would he have to travel any more than the Assistant to the President, which you show at \$200.00 a month?

A. Yes, he would make trips that the Assistant to the President would not make.

Q. He would leave the Assistant behind sometimes?

A. Yes, to look after his duties when he left.

[fol. 1500] Q. All right now, the total time covered by this sort of this- is a six months pre-construction period, a construction period the first year, construction period the second year, and construction period the third year. Is that all?

A. All of what?

Q. All of the time periods that would be covered by this sort of expense.

A. Do you mean for the executive section?

Q. Yes.

A. That is correct, and as I explained yesterday, the proportionate amounts charged to the actual reproduction of the property are reduced each successive year.

Q. Why is it that you assume there wouldn't be some costs for this section during the post-construction period of six months following your third construction year?

A. For the reason, as I explained yesterday Mr. Fitzhugh, that the post-construction period and such costs as would be involved during that period would be confined very largely to the engineering department, concluding its work of bringing up the final records of the company; the purchasing department, the stores department and the accounting department. After the property had passed 100 percent into operation, which I have estimated that it would do at the end of the third construction year, I have assumed that all executive costs would be attributable to the operation of the property, and that fifty percent of these costs would be attributable to the operation of the property during the third construction year and only seventy-five per-
[fol. 1501] cent attributable to construction, during the second construction year.

Q. The next item that appears is the legal section portion of the administrative and legal costs. This amount is shown to be \$490,576.00?

A. That is correct.

Q. The same time periods are used in finding these costs, are they not—that is, a pre-construction period of six months, and three periods of one year each representing the construction years?

A. And in the case of the legal department, a charge for the post-construction period, which is brought about by reason of the fact that the legal department would be engaged, after the completion of construction, in settling claims and various other things which would arise in connection with the legal department's work.

Q. On page 106 you show the schedule of salaries which you have assumed for the attorneys making up the legal section?

A. That is correct.

Q. You have listed first attorney, second attorney, and so on up to the seventh attorney?

A. Yes, that is correct.

Q. And then you have first secretary and so on up to the seventh secretary?

A. Yes.

Q. That is, you assume that each attorney has a secretary; is that right?

[fol. 1502] A. During the period of construction of Lone Star Gas Company, yes.

Q. How did you determine the first attorney's salary of \$750.00 per month?

A. I determined that that would be a reasonable compensation for a man who would be required to do the work and assume the responsibilities that the first attorney under this schedule would be required to perform.

Q. Isn't this set up, Mr. Connor, similar to the one which the company now has?

A. In some respects, yes.

Q. The first attorney of the company at the present time is not paid any \$750.00 a month salary, is he?

A. I do not know what he is paid, but the first attorney of the Lone Star Gas Company now would not be doing the work that this gentleman would be doing in Lone Star Gas Company if it were to be reproduced in a three year period.

Q. Do you mean to say that this would require a more experienced and more competent attorney?

A. No, I don't think it would, but I think he would be called upon to do more work and to handle more work.

Q. I understood you on direct examination, Mr. Connor, that you said the man you had in mind when you picked out the set up here and put in a first attorney, was Mr. Roy Coffee, who is now with the company?

A. Yes, I had a man of that type in mind, yes.

Q. Well now, Mr. Connor, you know as a matter of fact [fol. 1503] that Mr. Roy Coffee does not get any such salary, don't you?

A. I don't know what Mr. Roy Coffee gets.

Q. Well, who did you consult with to get this \$750.00 per month, then? You had to ask some attorney what his services were worth, didn't you?

A. I talked to Mr. Coffee about it, and his opinion was that all of those salaries I have estimated there were reasonable and right, in connection with the work which would have to be done, and furthermore, I had at that time in my possession the exact legal costs of a natural gas pipe line company which had been constructed wholesale during practically the very time that I was making this estimate, and I checked my estimate of costs against the actual expenditures capitalized and paid by this company. This company had a property which cost Thirty-Six Million Dollars; their legal expense during construction amounted to \$409,438.21.

Q. And notwithstanding you had all of that data from your conversation with Mr. Coffee you concluded that Mr. Coffee was entitled to about a \$250 a month raise, didn't you?

A. If you know what Mr. Coffee receives for his services, Mr. Fitzhugh, then you have made inquiries that I have not made.

Q. All right sir; the books of the company contain that information and they are open to you, are they not?

A. Yes.

Q. And you could have found out that from the books themselves?

A. Yes but that is a matter I never investigate.

Q. But you don't consider there is anything reprehensible [fol. 1504] about looking at the books of the company, do you?

A: Well, I think there are certain matters that are personal to a gentleman, yes.

Q. All right; now you have included in here, in addition to the attorneys in your legal section, a whole parcel of attorneys spread all over the map?

A. I would not so designate it.

Q. Well, you have one at Duncan, Oklahoma, haven't you?

A. Yes, and you would have one at Duncan, Oklahoma?

Q. And you have one at Oklahoma City?

A. And you would have one at Oklahoma City.

Q. And one at Wichita Falls?

A. You would need one at Wichita Falls.

Q. And one at Fort Worth, Texas?

A. You would have one at Fort Worth.

Q. And one at Eastland?

A. You would have one at Eastland.

Q. And at Abilene?

A. You would have one at Abilene.

Q. And Waco?

A. And at Waco.

Q. And Sherman?

A. You would have one at Sherman.

Q. And at Austin?

A. And also one at Austin.

Q. And the one at Austin costs you \$20,000.00 a year, I see?

A. What is that?

[fol. 1505] Q. No, I read that wrong.

A. Yes, sir.

Q. It says \$20,000.00 for fees. Where did you get that \$20,000, Mr. Connor?

A. That is an estimate which Mr. Coffee furnished me, as to what the fees in addition to the retainers would be.

Q. Well, that doesn't mean fees at Austin alone, then, does it?

A. No.

Q. Fees on the whole outfit?

A. Fees on the whole outfit.

Mr. Griffith: May I ask a question?

Mr. Fitzhugh: Yes.

Mr. Griffith: Mr. Connor, on page 105 of Volume VII of

Defendant's Exhibit 28, what do you have set out as the per annum cost of an attorney at Austin?

A. \$1,000.00.

Mr. Griffith: One thousand dollars.

Mr. Fitzhugh:

Q. Well, that is just the retainer, isn't it?

A. That is the retainer, yes.

Q. And he gets that if he doesn't do anything, doesn't he?

A. Well, I wouldn't say that.

Q. And then if he does any work, he gets fees in addition to his \$1,000.00, doesn't he?

A. He would be entitled to it, yes.

Q. That is, under your hypothetical set up, isn't it?

A. Well, it is not only hypothetical in that particular instance, but it is a matter of historical facts.

[fol. 1506] Q. On pages 108, 109, 110, 111 and 112 you show the costs you have computed for court costs and expenses in suits you say the company might have; is that right?

A. That is correct, and that estimate was prepared for me by Mr. Roy C. Coffee, attorney for the Lone Star Gas Company.

Q. In order to get those costs, you had to assume, did you not, that there would be 200 suits per annum?

A. Mr. Coffee gave me those figures, which in turn were based upon Mr. Coffee's actual experience as to the number of suits in which Lone Star Gas Company participated during a period of time in which a substantial amount of construction was actually in progress.

Q. And in addition to those two hundred suits, there would be other suits in addition to the two hundred, growing out of the condemnation of rights of way. Isn't that correct?

A. That is correct.

Q. Now in order for your company to incur court costs, you would have to lose every one of those suits, wouldn't you?

A. No, I don't think so. I am not familiar, Mr. Fitzhugh, with the items which would go to make up the total costs of litigation.

Q. Well, you have got it in your exhibit, Mr. Connor, and you are vouching for it?

A. Yes, upon the natural reliance which I place upon a man of Mr. Coffee's experience in these matters.

Q. All right now, for your costs to be correct as you have figured them, regardless of what your source of information is, Mr. Connor, don't you have to assume that [fol. 1507] you will lose every suit that is brought against you or that you bring yourself?

A. I don't know.

Q. You mean you don't know how you figured your own figures?

A. In so far as these court costs are concerned, I am not a lawyer, no.

Q. Well, you know how to figure, don't you, and you made the computations, didn't you?

A. Yes, but these figures were given to me by Mr. Coffee, who knows matters of this kind, and concerning which I am not particularly well informed.

Q. All right, sir; just the same, you have included approximately \$160,000.00 for such expenses, and taken it forward into your total?

A. That is correct, and I think those expenses would be incurred in the reproduction of this property, and otherwise I would not have put them in this estimate.

* * *

[fol. 1507a] Reporter's certificate to foregoing transcript omitted in printing.

* * *

[fol. 1508] Q. Throughout the entire undistributed general costs section, Mr. Connor, you have applied to the furniture or fixtures used by the different sections—that is executive, legal, accounting, treasury, and so on—a depreciation rate applied to furniture and fixtures, have you not?

A. That is correct; as part of the costs of those departments during that period of time.

Q. The depreciation rate you used was 8 per cent of the total value per annum, was it not?

A. I think that was the rate which I used.

Q. How did you decide for each of these sections the amount of furniture and fixtures?

A. That is based very largely on the actual furniture and fixtures in the various departmental sections as of the date of the inventory. The number of men who would be engaged during the construction period does not differ materially in some of the departments, or most of the departments, from the number of men who are currently engaged in the operation of the property.

Q. Now, go back to the Legal Section, you have included within the costs for the Legal Section the room rent, have you not, for that section?

A. Not that I know of.

Q. Haven't you figured in the cost of office space?

A. No; I treated that as an independent estimate under the heading "Other General Costs."

Q. Well now, the statement appears in here: "The Legal Section will require one floor of the office structure of the Lone Star Gas Company."

A. That is true. I make that statement.

Q. How is that floor paid for—who pays for it?

A. That estimate, Mr. Fitzhugh, is shown on page 229, I believe, wherein I estimate the operating costs of the Lone Star Gas Company's office building, and estimate that that building, or a similar structure, would be required during the construction of the property.

Q. Well, you do figure in the rent of this floor used, and the floor space used by the Legal Section, on page 229?

A. The proportionate part of the Lone Star Gas Company's office building which would be used by the Legal Section is included in the total amount set out, along with each of the other sections. In other words, there is no attempt [fol. 1510] to segregate the building costs or the equivalent of office rent.

Q. On page 115 you also have all of the furniture and fixtures for the offices of the legal section figured in, don't you?

A. Yes; but when the estimate of cost is developed, depreciation only is applied as a part of the cost.

Q. Eight per cent of this amount?

A. Yes. In other words, the total cost of the library, furniture and offices is not included, but merely the depreciation on that equipment.

Q. What is "A. L. R." on page 111?

A. That is a service which is actually paid for by the Legal Section of Lone Star Gas Company, and is a service

which they would require in the construction of the property. As to what the details of the service are, I don't know.

Q. Do you know what the A. L. R. is?

A. I imagine that would be an abbreviation for American Law Reports or American Law Review.

Q. So this is a service, to keep up a set of books—the American Law Reports?

A. I presume that is what it is.

Q. You figured in here the cost of the American Law Reports set of books?

A. There was an inventory made of the books in the law library, and the result of that inventory is shown on [fol. 1511] page 115. Now, if they have that set in their library it is included in their inventory; if not, it is not included.

Q. You mean that is included in the office of librarian and file clerk?

A. That is correct, if the Company actually has that compilation; otherwise, it is not there.

Q. You have also included the Oklahoma Digest and Statutes Service for 1933. What would be the purpose of that?

A. I couldn't tell you, except that it is a service which the Company subscribes for, and which I was informed would be required in connection with the reproduction of the property.

Q. Now, you include in here several Blue Books—Federal and Supreme Court Blue Book, National Reporter Blue Book, Texas and Southwestern Reporter Blue Book, and Pacific Reporter Blue Books—what is the purpose of those books?

A. I don't know.

Q. Those Blue Books are not law books, are they?

A. I told you I don't know what they are. They are services which the Company at this time and in the past has paid for and maintained.

Q. Are all of the books and services that you have listed here items that were given you by Mr. Coffee?

A. That is correct.

[fol. 1512] Q. And for which you yourself wish to assume no personal responsibility?

A. None other than that I have the utmost confidence in the correctness of Mr. Coffee's figures.

Q. You don't know what they stand for and what they are used for?

A. Except that they are used currently, and are subscribed for, and would be used in the reproduction of the property.

Q. Just to sum up the whole thing, Mr. Connor, you have here a system where you will provide lawyers with an elaborate library, and keep the thing up, and pay the room rent, furnish all of the furniture and fixtures, and pay them a very substantial salary besides; is that it?

A. I think that any lawyers who are regularly employed by the Lone Star Gas Company in the reproduction of their property would necessarily be furnished with a place to tend to their business and also be furnished with the law books with which to provide themselves with the necessary means of the defense of the company's interest.

Q. When lawyers are usually employed, Mr. Connor, on a retainer basis, they supply their own office, books, furniture, and fixtures, and pay their own rent?

A. That is correct.

Q. Don't you think that at the amounts you have included in your appraisal for the services of attorneys, that if those sums are to be paid, at least they ought to supply their own books and office space and fixtures?

A. No; I don't. I have made this estimate upon the assumption that the Company would employ its legal organization, with the exception of such attorneys as would necessarily be retained at strategic points throughout the system. I find on checking the actual costs of legal expense in the case of the Northern Natural Gas Company, where that Company adopted a different method, that the estimated costs which I have used are proportionately lower, and substantially so, than the actual costs incurred in the construction of the Northern Natural Gas Company. Therefore, I think, that this estimate is conservative.

Q. What do you mean when you say that company employed a different method?

A. They used the services of outside attorneys and paid them fees and retainers and expenses, rather than employ their own legal staff.

Q. Well, isn't that what is generally done, Mr. Connor? Did you ever hear of a company that had a setup like this in actual construction?

A. I think that if the Lone Star Gas Company were to be reproduced, that this is the method which would be followed. [fol. 1514] Q. All right. Where you have got Communication Expenses by period, for the Pre-Construction Period, for the Legal Section, you have figured 11 phones at \$6.60 per month for six months; 4 phones at \$6.60 per month for three months; telephones and tolls at the rate of \$15.00 a day for 150 days; where did you get those amounts?

A. Those phones are the actual phones in the Legal Section of Lone Star Gas Company at the present time, and the estimate of the number and expenses in connection with the telephones and tolls which would be incurred during the three year construction program was made by Mr. Coffee.

Q. You don't mean to say that you have used the actual working expenses of the Legal Section in your exhibit?

A. In so far as telephones are concerned, that is true. In so far as tolls are concerned, that is not true.

Q. Yes, sir. And for that reason: That if the Lone Star Gas Company were to be reproduced within a three and a half year period there would be concentrated within that three and a half year period a very substantial amount of the total litigation in which that company has been engaged since the year 1909.

Q. Telegrams and tolls at fifty dollars a day make up the major item of expense, do they not?

A. Fifty dollars a day—I don't see any such figure.

Q. Fifteen dollars a day.

A. That is correct; and that is what would actually happen.

[fol. 1515] Q. Now, for the next three construction years you figure 12 phones at \$6.60 per month for twelve months; telegrams and tolls at \$20.00 per day for 300 days; what is the basis for the telegrams and tolls there?

A. That estimate was made by Mr. Coffee based upon an analysis that he made of what, in his opinion, would actually be required for that purpose:

Q. And so you assume no responsibility as to that figure?

A. No; not for that particular figure, other than the fact that in the preparation of this estimate Mr. Coffee spent the time which he put on it in my office, and we went over each of these items carefully, and I outlined to him the amount of work that would be done, and the program of construc-

tion which had been adopted, and with that information in hand, Mr. Coffee, based upon his experience, was enabled to make an intelligent estimate of those costs.

Q. All right. Now, your next section is the Accounting Section. Here again the salaries are the biggest part of the total, are they not?

A. That is correct, and that would be the case in every organization of this kind.

Q. On page 133, you show various salaries for the different people working in this department?

A. That is correct.

Q. Did you have any particular basis for selecting these salaries?

[fol. 1516] A. Yes.

Q. Explain how you picked out these salaries?

A. Those salaries were checked over and analyzed by Mr. D. A. Huley and myself. We attempted to estimate as closely as we could the volume of work which would pass through the Accounting Section within the period of time ascribed to the reproduction of the property. It would be a volume of accounting which has never been passed through the Accounting Section up to this time. The salaries which have been assigned to the various individuals included in the section are almost identical with the salaries actually paid for men in positions of similar responsibility.

Q. Does the Comptroller of your Company at the present time get \$750.00, that you have used as the monthly salary in this exhibit?

A. I don't know, Mr. Fitzhugh, just what the Comptroller of Lone Star Gas Company does receive.

Q. The Chief Clerks of the various divisions get \$225.00, that you have used in most cases in the different divisions of this section?

A. I think that perhaps they do even at this time, and without anything like the same responsibility and the same amount of work that they would be called upon to do in case this property should be reproduced.

[fol. 1517] Q. You have included also in this estimate a post-construction period of six months, have you not?

A. That is correct.

Q. Now, passing to the Treasury Section, out of the \$997,509.00 total for these costs, salaries represent \$87,925.00, do they not?

A. That is correct, and it is exactly what you would expect in a department in which none of the individuals would ever leave the offices of Lone Star Gas Company.

Q. Where you have an Assistant Treasurer at a rate of \$750.00 a month, where did you obtain that salary?

A. All of the salaries which have to do with men who would be engaged in clerical work or administrative work over clerical employes were obtained by Mr. Hulcy and myself jointly as the rate of pay which would be commensurate with the responsibilities and duties of the individuals who would be employed in the work.

Q. And you also include in your charges for this section the same sort of computations for telephone and telegraph equipment and tolls as you have in the previous sections; is that true?

A. Yes; I have made an allowance for telephones and telegrams because they have to pay for telephones and telegrams.

Q. And the same sort of allowance as to office furniture and fixtures?

A. Wait a minute. That is correct. Office furniture and fixture cost has been confined to the determination on the [fol. 1518] equipment which would be required to operate the department.

Q. Next we come to the Land Section. Of the total of \$277,138.00, \$184,200.00 of that amount is salaries, is it not?

A. That is correct.

Q. Now then, the Land Section, according to your exhibit, would do all work in connection with the acquisition of fee lands, surface leases, mineral leases, gas purchase contracts, rights of way, easements, leases and road grants, and all miscellaneous contractual relations in any manner affecting lands or interest in lands?

A. They would also maintain records and make vouchers for the payment of all costs in connection with land leases and so forth.

Q. Are you familiar with the way Mr. Biddison evaluated the fees lands of the company?

A. I went over practically every portion of the inventory and reproduction cost estimate made by Mr. Steinberger and Mr. Biddison for the specific purpose of eliminating any duplication of cost which might be included in his estimate and might through inadvertence be included in mine, and I do not believe that there is any duplication.

Q. All right. Now, answer the question.

A: That included Mr. Biddison's determination of the cost of fee land, because I think Mr. Biddison confined his cost to the book cost plus the record fee.

[fol. 1519] Q. The book cost plus fifteen per cent for acquisition cost, wasn't it?

A. I don't recall. I think that he limited his cost to recording fees.

Q. All right. Now, suppose you are in error about that, Mr. Connor, and that Mr. Biddison actually used the book cost plus fifteen per cent or a twenty-five dollar minimum for the cost of acquisition?

A. Of fee land?

Q. Yes, sir. Then, if that is true and you come along here in this last section and include what you say would be the cost of acquisition of fee lands, that is a duplication, isn't it?

A. I would have to know specifically just what Mr. Biddison included in that item to find out the extent of the duplication, if any. If there is any duplication, why, most assuredly I would be the first to suggest that the duplication be eliminated.

Q. Well, just what does the cost of acquisition of fee lands that you have included include?

A. I have included that portion of the land organization outlined in the personnel set-up included in this estimate, and such costs do not include certain direct costs which Mr. Biddison could very properly include in his reproduction cost estimate without duplication. The Right of Way and Claims Division, for instance, has no costs for field expense.

Q. Well, the men that go out and buy fee lands or that [fol. 1520] get the rights of way in connection with their duties in the Land Section do everything in connection with the actual obtaining of the rights of way and the fee; isn't that right?

A. Yes, but there would be a man in the general office who would be responsible for the work of those men.

Q. Are you familiar with the way Mr. Biddison found the value of rights of way, for a gathering line, for example?

A. Yes; I know that Mr. Biddison took the cost per rod actually paid the land owner, plus a recording fee, I believe, and multiplied that by three in order to provide for the costs of damages paid to the land owner.

Q. And after he had multiplied his base cost by three, that was also to include every cost of every nature whatsoever for acquisition, was it not?

A. I don't think so.

Mr. Griffith: That was as to gathering lines rights of way only, wasn't it, Mr. Connor?

A. You mean with reference to the multiplication by three? That is correct. I think that the cost of the main transmission line on rights of way was determined from an analysis of the actual cost as reflected by the books of the company, and I do not believe that the actual costs of right of way reflected by the books include the costs which are set up as a part of the Land and Lease Department or Section of Lone Star Gas Company as set out in this estimate.

Q. Well, now, Mr. Biddison's method of finding the costs [fol. 1521] of right of way for transmission lines was pretty close to multiplication by four of his base costs, was it not?

A. I don't recall exactly, Mr. Fitzhugh. It has been some little time since I conferred with Mr. Biddison about those details, and I can't remember just exactly how he proceeded.

Q. You state here in your reading matter in connection with the Land Section—

A. Which page, please, Mr. Fitzhugh?

Q. Page 158. "The Section would negotiate through brokers and with land owners for the acquisition of desirable developed and undeveloped acreage". Then you list a lot of other things they do, too. Beginning at the list of different kinds of contracts and lands that this section would negotiate for, you say: "Upon the Land Section would devolve all work in connection with the acquisition of—" and then you list the different kinds. Now, don't you mean by this explanation you put in here, Mr. Connor, that this Section would do everything of whatsoever nature connected with the acquisition of the things listed on page 158?

A. They would do everything connected with that listing in so far as the personnel set out in this estimate would do that work. It is obvious from the personnel set out on the Right of Way and Claims Division that the superintendent in the office in charge of that section would not do all of the work in connection with rights of way and claims,

[fol. 1522] so there would be other costs in connection with that item which are not included in this estimate.

Q. What are the costs of acquisition that are not included in your Land Section estimate?

A. There are no filing costs or amounts paid land owners or damages.

Q. At page 169 you list the Geological Section. Of the amount of \$255,929.00 total, \$160,050.00 is for salaries; is that correct?

A. That is correct.

Q. Now, this Geological Section is entirely different and separate and in addition to the preliminary geological investigation and detailed geological work for one year listed on page 8 of this same book, is it not?— The amounts there are \$114,444.00 and \$78,420.00, respectively.

A. No; it is identical for the first and second construction years and with the estimate of the detailed geological work which would be done subsequent to the completion of the preliminary geological report, and I think I have previously testified to that fact.

Q. Well, the amounts just referred to of \$114,444.00 for preliminary geological investigation and \$78,420.00 for detailed geological work, and in addition \$15,000.00 for fiscal agent's geological check, are all in addition to the amount shown for the Geological Section under the Undistributed General Costs, general summary section, page 71, in the amount of \$255,929.99?

[fol. 1523] A. That is correct. I can not conceive of what connection a geological report and investigation made for the fiscal agent would have to do with reproducing the geological records of Lone Star Gas Company.

Q. No, but you have broken up all these geological charges into different sections?

A. I have, Mr. Fitzhugh, and as I have explained before and will explain again, the estimate of the reproduction of the geological records of Lone Star Gas Company is based upon a four year period, one year of which has already been discussed as a part of the preliminary and organization expenses, and that portion of the geological costs or the estimate of reproducing the geological records for the necessary work in connection with reproducing Lone Star Gas Company is set out on page 169 and covers a similar

expense for three years. Both of the first two years are identical with the estimate set out in the preliminary and development period. The last year shows a reduction in the personnel for the reason that a substantial part of the work would be completed prior to the end of the third construction year.

Q. On page 175, where you show a list of equipment consisting of five automobiles, five altimeters, four alidades, four plane tables, five Brunton compasses, five stadia hand levels, four stadia rods, four portable typewriters, five brief cases, one Petrographic microscope, and so on, where did you get the prices for that equipment?

[fol. 1524] A. The prices on those items were furnished by the Geological Department.

Q. Well, how did you get them—did you make them a list or did they give you a list?

A. Mr. Kendrick, Chief Geologist of Lone Star Gas Company, set out the equipment which would be required to do the work set forth in this estimate, and those figures represent the cost of that equipment.

Q. So that you are not responsible personally for the correctness of this list, as you don't know yourself whether it is right or wrong?

A. No; those figures were given to me as the cost of that equipment by Mr. Frank Kendrick, Chief Geologist of Lone Star Gas Company.

[fol. 1525] Did he also give you the estimate of the expenses of the party in the field, listed under your Field Expense item?

A. Mr. Kendrick and I worked out this estimate together. I relied very largely upon his technical skill and his intimate knowledge of the business and his experience in this kind of work. It was necessarily true because it was a highly specialized piece of work which was involved in the estimate. However, every figure that was put down was compiled in my office by Mr. Kendrick and in consultation with me in the course of the preparation of it.

Q. Well, does it represent your judgment or Mr. Kendrick's?

A. It represents my judgment, based upon the advice of Mr. Kendrick very largely.

Q. Well, isn't it a fact, Mr. Connor, that you just took his word for it?

A. No; it was not a question of taking his word for anything; we sat down and discussed the thing. I had worked out the program upon which this estimate was to be based, and of necessity Mr. Kendrick had to confer with me to ascertain the manner in which I proposed that this work should proceed.

Q. Well, on page 178, Mr. Connor, where you show the Purchase Section Cost, I suppose you talked with somebody about these costs, too, didn't you?

[fol. 1526] A. Yes, sir; it so happens that my familiarity with the Purchase Section and the Accounting Section, and a great many other Sections included in this estimate, is much more extensive than my knowledge of geology. There is not a single routine in the Purchasing Department, the Stores Department, or the Accounting Department, or the Traffic Department, or the Engineering Department of Lone Star Gas Company, which is included in this estimate with which I am not personally familiar.

Q. Why was it necessary for you to go talk with all these gentlemen, then?

A. Well, even with my familiarity and my knowledge of the routines of these departments and the responsibility of the individual men in those departments, I could certainly go to no better source of information than the man who was actually the Purchasing Agent for Lone Star Gas Company, the man who was actually the Stores Manager of Lone Star Gas Company, the man who actually checked the records of the men making the maps of Lone Star Gas Company; and that is where I got additional information above that which I acquired from my own study of those departments and their routines.

Q. Who was the man in the Purchasing Section you talked to?

A. I talked to Mr. Newberry about the routines and operations of the Purchasing Department practically every day [fol. 1527] in the year twice a day, because I go down with him in the morning and come home with him in the afternoon.

Q. All right. Mr. Connor, I don't know whether it is clear to me and to the jury or not, just exactly how you different men got together on your estimates. Did you sit down in your office and prepare what you thought was the correct costs for the Purchasing Section, and then take the thing in to Mr. Newberry and talk it over with him, making such cor-

rections as he suggested; or did you go to Mr. Newberry first and talk to him? Just how did you handle those matters?

A. Well, I will tell you, Mr. Fitzhugh, exactly how we handled the Stores and the Purchasing Sections, and the Accounting Section and the Traffic Section. We took a job where Lone Star Gas Company was going to—had built a substantial piece of work; we followed that job from the original requisition for out by the Engineering Department, and I have in my possession and now before me every step which was taken by the Stores Department, the Purchasing Department, the Traffic Department and the Accounting Department in taking that job from the requisition stage and putting it on the investment ledgers of Lone Star Gas Company; and I followed that job to such an extent that I went to the individual members of each organization and saw the very work that he did in connection with handling that [fol. 1528] routine.

Q. Now, what job are you talking about?

A. I am talking about the construction of the Hastings Tap Line in Oklahoma.

Q. What was the total cost of that piece of construction?

A. I don't know, Mr. Fitzhugh, that I have the total cost of it, because I have simply here with me sample sheets of the various sections of the work.

Q. Well, can you give me approximately the total cost?

A. No, I can't.

Q. Do you know what the total cost for the Purchasing Section was?

A. No; that is not the point, Mr. Fitzhugh, as to what the total cost of the job was. The important fact, as I see it, was to determine the inter-departmental relations and the duties of the individuals in these various departments, when a piece of work started through the proper course; and that is what I did.

Q. Well, if you took the percentage of all these different costs and the total cost, wouldn't you have something that would be comparable with the total cost of this whole appraisal and the total cost of your Purchasing Section?

A. Oh, no. What you do in a situation of that kind, Mr. Fitzhugh, is to determine what men are necessary in order [fol. 1529] to carry out the routines of a department, what their work is, what it consists of, what their duties are, what paper work they will handle, what forms they are to make

out, to whom they are responsible; and that is exactly what I did.

Q. Well, if I understand you correctly, Mr. Connor, even if you had known the total cost of the Hastings Tap construction job, and the total amount spent for the Purchasing Department, and the per cent of that amount to the total construction job, you still would not try to check that back against this appraisal to find out if you had made the same sort of an application?

A. Good gracious, no.

Q. Well, that is what I thought. Now, what use did you make of the data that you got from the Hastings Tap construction job?

A. To note that certain men were required to do certain things, and what they did. That, of course, isn't the only piece of work that I followed through these various departments.

Q. Well, just explain how you did about this Hastings Tap proposition.

A. I want you to understand, Mr. Fitzhugh, that in so far as the work in connection with the development of the routines of constructed line has nothing to do with the final determination of the estimate made for the Purchasing and [fol. 1530] Stores and Accounting Sections; it merely sets out in detail the various and sundry duties and things which would be required of individuals in connection with taking care of a piece of work of that kind. Now, that would be merely one of maybe a thousand jobs, some much larger. Now, if you want me to read into this record every step that would be taken in connection with handling a job from the time the requisition is made out until the time it is put on the investment record, I will be glad to do it, but it will take me all afternoon to do it.

Q. I want you to read into the record, Mr. Connor, anything about this Hastings Tap study that you made that was actually used and applied in finding your present valuation.

A. The first step in connection with a job of this kind—and I think for the purpose of the record that it would be better to make this statement, which I am going to make, general and applicable to the Accounting, the Purchasing, the Stores Section and the Traffic Section, rather than applicable to a specific piece of property, because on the whole it will develop exactly what takes place and would take place in the

reproduction of this property, and shows the relative work done by the individuals in each Department. If it is decided to build a piece of pipe line or a compressor station, that [fol. 1531] decision will come from the Executive Section. The Executive Section would then confer with the Engineering Section relative to the preparation of plans for the project. The contact in that case would be between the Vice-President and General Manager and the Chief Engineer of the Company. An ER number—that is, an expenditure requisition number would be assigned to this particular project, whether it was the Hastings Tap, or Line K, or Line O, or the Petrolia Compressor Station. If it is a line going to a certain town or to a number of towns, the Engineering Department would make house accounts—

Q. Well, now, pardon me, Mr. Connor. All that information is information that you had in general before you studied the Hastings Tap proposition at all, isn't it?

A. Yes, it was—this merely outlines in a general way some of the details which actually take place in a small line such as the Hastings Tap.

Q. Well, will you kindly just tell the things that you found from your Hastings Tap study that you didn't know before, and that you made special application of in preparing your present exhibit?

A. I don't know that I made any special application of the routines which took place on the building of a specific line in the making of my estimate—

Q. All right, sir.

[fol. 1532] A. —because I knew everything that these men did before I analyzed that Hastings Tap job.

Q. Well, what was the use of analyzing it, then, if you already knew all about it?

A. Well, I thought I might sometime be asked about it.

Q. After making the analysis of it, you made no application of it, did you?

A. No specific application because no specific application was necessary.

Q. All right, sir. Now, in your Stores Department, your total there is \$225,690.00, of which \$149,200.00 is salaries?

A. What page is that, Mr. Fitzhugh?

Q. 203.

A. \$149,200.00 salaries, yes, sir.

Q. Now, Mr. Connor, Mr. Biddison throughout his ap-

praisal time and time again applied four per cent of Material Cost for Stores Expense. Are you familiar with the method which he used in doing that?

A. Yes, sir.

Q. Now, what is there different about your Stores Expense, from the Stores Expense that he applied throughout his appraisal?

A. There is a great deal of difference. Mr. Biddison's Stores Expense estimate is based upon what is termed Direct Stores Expense, and consists of the expense of the [fol. 1533] stores organization located in the field. There isn't a single individual set out in this estimate of mine who has anything to do with the organization that Mr. Biddison has used as a basis of his estimate, except to keep all of the records and supervise the work of the field organization. Now, the Stores Department, in the construction of a property such as Lone Star Gas Company, would be one of the most important sections of the entire organization, for this organization would be responsible for every piece of material purchased by Lone Star Gas Company for the construction of its property from the time it left the factory until that material was accounted for on the permanent investment ledgers of the Company, with the exception of the step which would be taken by the Accounting Section. In putting those property items on the investment ledger the Stores Department would actually voucher every invoice for material, setting out the location at which that material was used, in order that the Accounting Section might make a proper allocation and distribution of that material cost. There is a very definite line of demarcation between the Field Stores Expense and the General Stores Expense. I have made an estimate solely of the expense of the General Stores Organization, which would not only keep a record of all of the material [fol. 1534] which went into the property and was received by the Company during the progress of construction, but would also keep daily a record of every piece of material on hand as of that date.

[fol. 1535] Q. On page 205, Mr. Connor, from the top of that page down through the tabulation up to and including the number 14, those are all the things that were included by Mr. Biddison in his field stores expense; is that correct?

A. Those are some of the things. I presume that that fairly well covers what might be termed the field stores ex-

pense. Now, if you will notice on page 204, Mr. Fitzhugh, that this specific exception is made, and I am quoting from the text:

“While not a part of the general cost of stores, to which this estimate has been confined, a knowledge of the activities of the field stores division of the department, the cost of which is included in the estimate of direct structural costs, is necessary to a clear concept of the part that the stores department would play in the reproduction program”.

In other words, I set out in plain language that Mr. Bid-dison made an estimate of one division of the stores department, and I made an estimate of the other.

Q. Well now, we will assume, Mr. Connor, for the purpose of making this clear, that your company makes a purchase of pipe. Now just what would be handled by the general stores department and what by the field stores?

A. The supervisor of stores would be responsible for the information furnished the traffic department, as to where that pipe should be delivered—we are talking about carload lots of pipe. The requisition for the pipe would come to the purchasing agent. If there was no pipe available which would be sufficient in amount or suitable with [fol. 1536] regard to specifications for the work, then the purchasing agent would enter an order for this pipe, and the stores department would then have no particular contact with that pipe until the responsibility for unloading it arose. The general store keeper would make all contracts for the hauling of pipe and the stringing of pipe, and would be finally responsible for the delivery of pipe to the job. The actual handling of the pipe on the job would be done by a contractor or someone that he delegated to do that work. The field organization of the stores department would be responsible for the receipt of that pipe, the checking of that pipe and for furnishing information to the purchasing department that the pipe had been received; that the number of feet of pipe corresponded to the invoice furnished by the vendor, and that information on what would be termed a “material received report” would be sent to the purchasing agent as a check against the invoice of the vendor. That invoice would then be passed by the purchasing department to the stores department, and it would there be vouchered by the voucher clerks in the stores

department, with the location at which the pipe was delivered clearly set out; the job to which the material charge should be made clearly set out, and pass that voucher on to the accounting section to be properly entered upon the investment ledger of the company.

Now in the matter of material which might be on hand, the functions of the stores department would be more complex, for the reason that every requisition for material [fol. 1537] received by the purchasing department is first passed to the stores department to the supervisor of stores or his assistant, in order to ascertain if there is available in the warehouses of the company any part of the requisition submitted by the engineering department. If that material is available and in stores, any part of the requisition, that particular item is then circled with a red circle and the requisition passed back to the purchasing agent to notify him that it is not necessary to take up with the vendors the purchase of that particular item because the material is on hand. The stores department, in handling an item of material which is on hand, handles that transaction just exactly like the purchasing department handles a transaction with an outside vendor. In other words, the warehouse which has that particular item of material is credited with it, the job is charged with it, the material transfer is made out and that material transfer is in effect an invoice between two separate sections of the company's organization. In other words, the warehouse acts as the vendor and the other warehouseman who receives it acts as a vendee and the transaction is kept in a definite and accurate way, and the books of the company are able to reflect the location of each and every piece of material which has been purchased at any time or which has been put in the store house or warehouse.

Q. Well now, Mr. Connor, at what point in this transaction did the work of the general stores department stop and the functions of the field stores department start?

A. Well, it starts with the personnel. The warehouse- [fol. 1538] men in the field send in their information to the general office, Mr. Fitzhugh. That is done every day; every warehouse on the system of Lone Star Gas Company sends in a report to the office, setting out in detail every item of property in that warehouse. The warehouseman in charge does that every day. He also pays off freight

bills, whether it is a return shipment or an original consignment, and I am speaking now of the field men. The office force of the stores department is largely engaged in maintaining the records currently of materials on hand, seeing that those materials on hand are properly priced and seeing that the material transfers are properly transferred to the accounting section for entry on the investment ledger, and for the vouchering of invoices.

* * * * *

Q. Mr. Connor, the general stores department does not actually keep any materials on hand; does it, any pipe or fittings or valves or anything of that sort?

A. Oh no; the general stores department is altogether responsible for the records of material and the handling of the details in connection with the location and price of the material on hand and it is also directly responsible for the stringing of pipe and the providing of material to keep jobs moving. The direct handling of the material and the [fol. 1539] warehousing of the material and the uncrating and placing of materials in bins and classifying it and charging it in and out of the warehouse—that is all a field stores warehouse operation.

Q. Well what is it that the general stores department does, then, except get the notices from the field stores warehouse keepers as to items on which they may be running low, and pass that information to the purchasing department?

A. It keeps a current inventory of all material received, whether that material is in place or in the warehouses. It keeps a current record of all material in the warehouse. It vouchers all invoices and checks all invoices against the material received reports, and really provides the final information for the accounting section with reference to the placing of the materials of construction into the proper construction account. It also handles or originates all claims for shortages and damages, whether visible damage or concealed damage or concealed shortage.

Mr. Griffith: In materials?

A. In materials, yes.

Q. All right. Pass on to the stationery department, page 215, Mr. Connor. Of the \$61,482.00 total, \$52,360.00 of that is salaries; is that correct?

A. That is correct.

Q. What is it that this department does?

A. It is responsible for the purchase, preparation and distribution of all stationery and office supplies, including [fol. 1540] office furniture and fixtures.

Q. How much stationery do you figure would be used during the pre-construction period, the three construction years, and the post construction period?

A. I would have to make an estimate of that, Mr. Fitzhugh. I mean rather, to take out of this estimate the items which I have set out against the individual departments, because I have made an estimate of the stationery which the various departments would use, and that was based on a study of the actual stationery used in the stores department during one year.

Q. How could you make an estimate of the number of people required in the stationery department, and the cost of operating that department, without knowing how much stationery they would have to handle?

A. Well we do know and we did know.

Q. Well, how much?

A. That estimate was based upon the number of employees used in the various departments, with the exception of the engineering department, and for that department a detailed inventory was made of the actual supplies used. The office stationery and supplies used by the purchasing department during the year 1931—

Q. Well now, wait just a minute, Mr. Connor; I don't believe you got my question. I want to know how much stationery this department is going to have to handle for the pre-construction period, the construction period, and [for. 1541] the post-construction period that you have assumed.

A. I was going to try to tell you how I made that estimate.

Q. Well, can't you just give me a figure?

A. No. That would take me some time, for me to go into each one of these departments that I have made the estimate for, and pull out that particular item. I was going to tell you the manner in which I arrived at the basis for making the estimate.

[fol. 1542] Q. All right; go ahead.

A. The year 1931 the actual materials used in the Purchasing Department amounted to \$130.42 per employe. Mr.

Hillyer and myself then, checked up the volume of business which had passed through the Purchasing Department during that year. The year 1931 was one of the most inactive years in the Company's operation, from the standpoint of paper work handled through the Purchasing Department. Based upon our estimate of the volume of business which would be required of the Purchasing Department during this reproduction program in three years, we estimated that the total stationery requirements would be increased from \$130.00 per employe to \$169.00 per employe. The actual volume of work was considerably more than double; but in analyzing the forms and stationery used, it was estimated that an increase from approximately \$130.00 per employe to \$169.00 per employe would be a fair estimate. That was applied to most of the departments. There were some exceptions made with reference to the Executive Section, and I think the Land and Lease Section, and I think, perhaps, the Legal Section; but it costs between \$150.00 and \$175.00 on the average to supply forms and office supplies required by each and every employe.

Q. Did you say that you changed back to \$150.00 per employe?

A. No; I used \$169.54 per employe.

Q. Well, do you mean by that, Mr. Connor, that the Stationery Department would handle \$169.00 times the [fol. 1543] number of employes in the department?

A. Per year.

Q. Per year?

A. Or approximately that figure. It is impossible, of course, Mr. Fitzhugh, to make an exact estimate, on anything of that kind, because there are some departments that use more stationery than others, and others use less stationery but more expensive forms of stationery than others; but we attempted to arrive at what was a reasonable figure for that cost during the construction period. The Stationery Department would also bind reports, furnish covers for reports, set up mimeograph and multigraph forms, and turn out a considerable amount of printing forms for the various departments.

Q. The lowest paid person that you have working in the Stationery Department is a shipping clerk at \$75.00 per month; the highest paid is Supervisor at \$350.00 a month?

A. He is the Assistant Purchasing Agent.

Q. Now, you don't mean that just the employes of this department would be paid salaries between this high salary and this low salary for only handling \$169.54 worth of stationery here, do you?

A. I said \$169.00 per year per individual,—every individual included in this estimate.

Q. Do you mean just the individuals in the Stationery Department?

[fol. 1544] A. No, no, no; all departments.

Q. All right.

A. The Stationery Department has currently on hand, even at a time as quiet as this, when practically no construction is taking place, they have stocks of stationery on hand which I would say amount to twenty-five or thirty thousand dollars, and there is a very rapid turn-over of that stationery.

Q. But you are still not able to give us any idea at all of how much work has to be done for which you have included here \$52,360.00?

A. No; I don't think anybody could sit down and tell you how much work a group of men supplying the necessary forms, purchasing the necessary stationery, setting up the necessary mimeograph and mimeograph forms, would do during a period of three and a half years during which a property as large as the Lone Star Gas Company would be constructed. We know that these employes which have been used in this estimate are actually employed now to handle the routine operations of the Stationery Department. There is nothing imaginative about that organization; they are right there now this afternoon in Dallas, doing in much less strenuous degree the very things I have estimated they would do in the reproduction of this property.

[fol. 1545] Q. Just the same, Mr. Connor, the way you have set it up, you have an amount in here included for the salaries of people doing some work the exact amount of which you do not know; isn't that true?

A. I am perfectly frank to admit that I do not know the exact amount of work those men would be doing.

Q. All right. Now, in your Traffic Department, on page 222, of the \$25,546.00 total, \$23,775 is taken up in salaries, is it not?

A. That is correct.

Q. The only other amounts besides salaries are the allowances you made for stationery and office supplies in, the

amount of \$511.50; transportation and traveling expenses, \$1,000.00; and communication, \$180.00?

A. That is correct. The Traffic Department would be the smallest individual department in the organization. It would, however, be a very important and responsible department.

Q. The first item in your "Other General Cost" section is [fol. 1546] Office Building Costs, \$134,820.00. How did you find that amount, Mr. Connor?

A. I took the operating expenses of the Office Building, including taxes, for the years 1929 and 1930, and averaged those costs for the two-year period, with the exception of taxes, which were based on the actual ad valorem taxes paid on the Office Building, and site, and parking lot, and furniture and fixtures, for the year 1932; and in addition to that, depreciation on the Office Building in the amount of three per cent on the estimated reproduction cost. From those costs I deducted the rentals which Lone Star Gas Company receives for some stores on the first floor of the building, and which would not be used by the organization during the reproduction of the property. I assumed that one-half of that amount would be charged during the pre-construction period, and the full amount for each of the three succeeding years. I used the years 1929 and 1930 on certain operating costs for the reason that since the year 1930 the operating expenses of the Lone Star Gas Company building are merged in part with the operating expenses of the Dallas Gas Company building, and I found it rather difficult to make an allocation in view of that fact.

Q. Did you take a percentage of some amount to get this \$134,820.00 that appears in your general summary [fol. 1547] for the Office Building costs?

A. No; I just got through explaining how I got that.

Q. Is that the sum of the amounts that you show on page 229 for the Pre-Construction Period, Construction Period-First Year, Construction Period-Second Year, and Construction Period-Third Year?

A. That is correct.

Q. Now, to get those amounts you included for each year ad valorem taxes, did you not?

A. Yes, sir—no, I used the ad valorem taxes for the year

1932 because that was not an expense; it was confused with the operating expenses for the Dallas Gas Company building; that is the actual ad valorem taxes.

Q. Well, that figure is used by you in all three construction period years, isn't it—the 1932 taxes is a part of the \$38,520.00 used by you for the Construction Period-First Year, Construction Period-Second Year, and Construction Period-Third Year?

A. That is right; you pay your taxes every year, Mr. Fitzhugh.

[fol. 1548] Q. Yes. Now, you included this building when you were computing taxes during construction, did you not?

A. Reference is made to page 54, Volume 8, Exhibit 28, the following language will be found: "Included in the estimate of Other General Costs were the following ad valorem taxes: General Office and General Office Structure, \$6,851.00; Other General Land (Parking Lot) \$288.00; Furniture and Fixtures, \$346.00; Total, \$7,485.00. Deducting this total from \$309,305.00 there remains \$301,820.00 as the annual tax factor to be used in the calculation of Taxes During Construction." In other words, I have specifically deducted that.

Q. That is all right, then. Now, then, on your depreciation three per cent, \$9,643.00, you included that amount in the general office building for the pre-construction period and three construction years and post-construction period in computing your going value, did you not?

A. I made an application of my depreciation to every item of property in the system. Included in that system, of course, was the office building.

Q. To that extent, then, this amount would be a duplication, would it not?

A. It might be considered that in the proportionate amount, because only a proportion of the total property is calculated to be in service but inactive during each of the development years, and of course after the end of the construction period that item would cease to be even a theoretical duplication.

[fol. 1549] Q. Well, there would be at least a part of about \$33,000.00, wouldn't there, Mr. Connor, that would be a duplication; that would be \$9,643.00 for three years and a part of the post-construction period?

A. No, I would not say that, Mr. Fitzhugh, because in setting up my estimate of the depreciation allowance I did

not attempt to make a segregation of the various items of property to which the reserve accruals were applied, and I don't think that I would change my figure even after the matter to which my attention has been called *has been called* has been called to my attention.

Q. Even though there is bound to be a duplication of some amount?

A. You might say that that is true, but in view of the manner, in which the estimate was made I don't believe that it could be construed as representing a duplication.

Q. The next section is Engineering Costs.

A. That is correct.

Q. The total is \$1,127,661.18?

A. That is for the General Engineering.

Q. Whom did you talk with in working out these figures, Mr. Connor?

A. Well, Mr. Fitzhugh, in making up this estimate of the cost of engineering and engineering records I spent a good part of a year, or at least some part of my time for almost every day for a year was given to the preparation of this estimate. The estimate made of Engineering Costs was done directly under my supervision. The manner in [fol. 1550] which the estimate was made was outlined and set out by me. The details of the various steps which are involved in this estimate were delegated to men who were particularly equipped by training and experience to do the particular things to which they were assigned.

Q. Have you finished?

A. Yes, if that answers your question.

Q. On page 247 you show Draftsmen, 49.75 at \$2,040.00. Just what does that mean?

A. That means for the work which would be done by draftsmen during the first year of engineering in connection with the General Engineering Costs, that the hours that the draftsmen would work on the items which are set out in detail in this estimate would require one man 49.76 years to perform and that the average rate of pay for those men who would be doing this work would be \$2,040.00 per year.

Q. What did you depend upon for your rates of pay in this section?

A. Rates of pay are based on the pay at which the draftsmen were being paid during the year 1931, I believe.

Q. Well, take the salary of the Chief Engineer, for example. Does that represent the actual salary of the man now serving as Chief Engineer of the company?

A. I don't know, but if it did it would be a mere coincidence, for the work which would be involved and being responsible for on the engineering work required to reproduce [fol. 1551] the Lone Star Gas Company and the permanent records of the company would in no way conform to the present duties of the man who is the Chief Engineer of Lone Star Gas Company. It would be another job; it would not be the same job at all.

Q. You show that the Chief Engineer draws an annual salary of \$12,000.00. Isn't that more than the Chief Engineer of the company at the present time gets?

A. I don't know, but I don't think what the Chief Engineer of Lone Star Gas Company now gets, an operating company one hundred per cent, would have any relation to what the Chief Engineer, responsible for the engineering work of reproducing Lone Star Gas Company, would receive.

Q. On page 256, where you show Maps, Plans, and Drawings for the first year, labor, Draftsmen only, on Line K you show nineteen alignment sheets, size fifteen and a half by 36, preliminary hours 855, final hours 956. What do those maps show, Mr. Connor?

A. They show every detail, including land lines and property owners, of the line which is designated "K" in the system of Lone Star Gas Company.

Q. Where did you get the number of preliminary hours, 855, that you have used for these alignment sheets?

A. All of the estimates of the time required to prepare the preliminary drawings and the final drawings shown in this estimate were made by Mr. J. H. Love, Chief Draftsman of Lone Star Gas Company.

Q. Now, those alignments sheets, Mr. Connor, show only [fol. 1552] the property lines and the lines of the company supposed to be constructed, do they not?

A. They show a great deal more than that, Mr. Fitzhugh,

Q. Is there any special construction, now, shown on those sheets?

A. All of them show all the special construction, every gate, every gate valve, every drip, every river crossing,

every detail down to a quarter inch nipple, is drawn and indicated on the alignment sheet.

Q. The nineteen sheets, with 855 preliminary hours and 956 final hours, show that there is about one hundred hours per sheet total time; is that right?

A. That is correct.

Q. Isn't that an awful lot of time for just making a drawing of a pipe line system?

A. I would not say so, Mr. Fitzhugh, and I don't think you would say so if you should see those maps.

Q. Well, I have seen them, haven't I? Aren't these alignment sheets that you are talking about here the very identical sheets we had at Fort Worth before the Railroad Commission?

A. Some of them, no doubt, were.

Q. Yes, sir.

A. As a matter of fact, Mr. Fitzhugh, the man who made the estimate of the time required to turn out these sheets in most cases had the actual time that they did have to turn out the very sheets on which he was making his estimate, because for the past seven years he has kept a record of the time of every draftsman on every piece of work turned [fol. 1553] out in the Lone Star Gas Company's General Engineering office.

Q. You don't mean to say, though, do you, that the number of hours, preliminary and final hours, in here is based on the actual time spent on those sheets?

A. In a great many cases that is absolutely true.

Q. In how many cases?

A. I could not tell you, but in a large number of instances.

Q. On page 267, where you show drawings, Mineral Wells General Layout, 9.55 acres, Mineral wells Structure Layout, and so on, Mineral Wells Garage Plans, Water Tank, Pump House, and so on—

A. What page is that, Mr. Fitzhugh?

Q. Pages 267 and 268, bottom of page 267 and top of page 268. The inventory does not show that your company has any property at Mineral Wells, does it?

A. I think, Mr. Fitzhugh, that the designation has to do with a field location and a field designation, rather than the town of Mineral Wells.

Q. You don't know what these drawings apply to—what they are for, do you?

A. Oh, yes. These drawings where final hours are shown are actual drawings in the files of Lone Star Gas Company.

Q. Well, what would they be for—you don't have any property at Mineral Wells, do you?

A. I said I thought that the property you speak of there is not located in the city of Mineral Wells, but refers to the [fol. 1554] warehouse and camp site in that district. The Lone Star Gas Company has a pipe line that goes up close to the town of Mineral Wells, and I think that that section of the company's system is designated by that name.

Q. Well, there isn't any such thing as the Mineral Wells field, is there?

A. Yes; there has been what is known as the Mineral Wells gas field, and it has been here for a number of years.

Q. Does the company take any gas from any such field?

A. It used to take quite a bit of gas from there, through Line K-A.

Q. Well, there is no camp site there now, is there?

A. I could not tell you, but if the drawing shows in this inventory, that drawing is in the records of Lone Star Gas Company.

Q. On page 268, where you show well lines and the maps for well lines, what part of those maps apply to wells that have already been abandoned?

A. I could not tell you, Mr. Fitzhugh. The Engineering Department more than any other department in the organization attempts to keep its records absolutely current; in other words, immediately there is a change made on any structure, whether it is a change in the pipe or in a ventilator or a change in the oil piping at a compressor station or a change in the header line or the intake, all those changes are immediately detailed in the field by a representative of the Engineering Department; those details [fol. 1555] are brought into the Engineering Department and the changes recorded on the final or office maps. Now, when a well line is abandoned, periodically the Engineering Department eliminates that well line from its records of gas well construction, and of course there is a certain lag between the time that a well line might be abandoned and the time the Engineering Department could finally correct its records, but that would be the only possible manner in which abandoned or unused or discarded property could appear in this inventory.

Q. Now, how much do you charge per hour for making these plans—what is the cost per hour?

A. How do you mean, how much do I charge per hour?

Q. I mean what is the cost per hour of making such plans as you have detailed in here?

A. The wage scale, average draftsman, is \$2,040.00 per annum. I am going to take, Mr. Fitzhugh, the first year as an illustration. I will give you the first year, and I think from that you can get the idea.

[fol. 1556] Well, get it approximately, Mr. Connor, without taking too much time.

A. No, I will get it exactly for you.

Q. All right.

A. From page 256 to page 321 there is set out in detail the estimate of the Preliminary Hours for Draftsmen, which is 99,873. The hours applicable to each item are shown in detail. If reference is made to page 249 it will be found that draftsmen as shown in detail at 99,783 hours, plus ten per cent for omissions and contingencies, to cover work which would have to be drawn over, paper which would be spoiled, tracings which would be injured, added to 99,783 hours gives a total of 109,761 hours. An estimate has been kept in the Engineering Department for a number of years of the hours—of the effective hours which men are able to perform during a year. There are 365 days in the average year, and from that I have deducted 52 Sundays, 26 days to cover Saturdays, which are half-holidays, holidays 7 days; and in 1930 and 1931 experience of time lost by illness, which is 4.25 days, the total of those days on which men would not work was 89.25, which subtracted from 365 results in 275.75 effective working days per draftsman, which multiplied by eight hours per day results in 2206 hours per year, which divided into 109,761 [fol. 1557] hours results in 79.76 years, which is the figure which is shown on page 247; which, when multiplied by \$2040.00, equals \$101,510.00, as shown on page 247.

Q. Well, that would make it work out, then, that the plans cost about a dollar an hour?

A. They cost just exactly what that estimate shows they would cost.

Q. Well, to make it exact, you got 99,000 hours of work for \$101,000.00.

A. That is correct.

Q. Or a little over a dollar an hour?

A. It will cost you more than that now, Mr. Fitzhugh.

Q. All right. Now, on page 299 you show a chicken house, 20 hours. Does that mean that it cost you \$20.00 to prepare the plans for that chicken house?

A. What page is that?

Q. 299, at the bottom of ~~the~~ page.

A. 299?

Q. Yes, sir.

A. That is correct.

Q. In other words, the plans probably cost more than the chicken house, didn't they?

A. I don't know. I wouldn't say that because these plans, which are preliminary plans, are the plans which are prepared for the construction of the structure, and not the [fol. 1558] final plans which would be kept in the record. Now, you will note that beside that 20 hours for the preliminary plans are the construction plans for that. There are no final plans at all.

Q. Does that mean anything?

A. Yes.

Q. What does it mean—that it never was finished?

A. No, it means they made no final record of that structure.

Q. All right. Look on page——

The Court: I didn't understand what kind of a house that was you were talking about.

The Witness: A chicken house.

The Court: A chicken house?

Mr. Fitzhugh: A chicken house, yes, sir.

The Witness: Yes, sir. Your honor, if I may be permitted to explain that.

The Court: Yes, I am interested, and it is not from idle curiosity. I want to know what a Gas Company would want with a chicken house.

The Witness: Well, I will tell you. The Lone Star Gas Company operates in a great many rather remote localities, and in connection with its operations it is necessary for the Company to house a substantial number of its [fol. 1559] employes, together with their families. That is particularly true with reference to the large compressor stations. They provide livable, comfortable cottages, well-planned, well-ventilated, well-equipped with plumbing facil-

ities, for their employes on their compressor sites. Now, in a number of cases these employe villages are rather substantial in size; the Petrolia and—

The Court: What did you say was rather substantial?

The Witness: Rather substantial in size.

The Court: What is it that is substantial?

The Witness: These villages.

The Court: Oh, the villages.

The Witness: Now, at Petrolia, Texas, where this particular structure is located, the number of houses of the employes is so large that it resembles a small village or town; and in connection with these community establishments certain community facilities are sometimes provided, and they are substantial and well-constructed. Now, I don't know—I have no way of telling, but I notice that this particular item is located at Petrolia, Texas. The number of employes of the Lone Star Gas Company at Petrolia, Texas, is sufficiently large to justify the maintenance of a small-sized hotel, in order to feed them and provide for their comfort.

The Court: The purpose of the chicken house, then, is [fol. 1560] to take care of the employes out there at that place, where they wouldn't otherwise have facilities of that sort?

The Witness: That is correct.

The Court: All right; I just didn't understand it.

The Witness: I will be glad, if you wish, to try to find out something about that in more detail.

The Court: No, that is all right.

The Witness: But it is entirely possible that that is a rather substantial structure, which requires a set of plans for the carpenter to get a bill of materials, foundation layout, and so forth. I don't know.

Q. How long has it been since the hotel there at Petrolia was abandoned?

A. I don't know. I didn't know it had been abandoned, Mr. Fitzhugh.

Q. How long has it been since you have been at Petrolia?

A. I don't know. I think I was up there last winter.

Q. You didn't stay at the hotel?

A. No; I didn't pay any attention to the hotel.

Q. Now, then, on page 298 there is a 20 by 30 cattle guard. The preliminary hours for the maps for this cattle guard

were 33, the final hours were 30, or a 66—63 hours. Now, [fol. 1561] isn't it a fact, Mr. Connor, that if your figures are right on these maps, they cost more than the cattle guard cost?

[fol. 1561] A. I wouldn't say so, Mr. Fitzhugh. I think in every case that you would have to see the individual drawing to get an idea of what that description intended to cover, and from my inspection of the records of Lone Star Gas Company I have never failed to be impressed with the completeness of these engineering records.

Q. On page 301, Mr. Connor, where another cattle guard is shown—what type of cattle guard is that?

A. I don't know.

Q. There are 22 preliminary hours and 18 final hours on that, for a total of 40 hours. Now, Mr. Connor, you know the type of cattle guard that the Company is putting in. Isn't it true that they don't put any forty dollar cattle guards in?

A. I wouldn't say that; and in this connection I will say this, that in view of the manner in which, and the standards which Lone Star Gas Company maintains in the matter of keeping an accurate graphic record of its property, that it is entirely probable that on certain small items the actual delineation and preparation ~~and drawing~~ of those items might cost as much as the items themselves; yet, on the [fol. 1562] other hand, when we reach a situation where the great mass of detail which is required to be turned out in connection with a large compressor station, such as Petrolia or Joshua, I think that the over-all cost on those records is very reasonable.

Q. Now, besides these cattle guards there are quite a number of these chicken houses, incidentally, aren't there?

A. I would imagine there is a chicken house, probably, at each of the major compressor stations.

Q. There are a number of other small structures, are there not, like pipe sheds and—well, various little sheds of different kinds throughout this list; for instance, on page 305 there is a plan for a water faucet—26 hours on that; and various other little items like that where a substantial amount appears for the plans?

A. Have you in every case, Mr. Fitzhugh, noticed that there are a number of these items? They are not all just one item.

Q. Yes, sir.

A. Well, you didn't say so.

Q. Well, there are a number of chicken houses, I mean, aren't there?

A. Well, I know, but in front of these items you enumerated, there are in some cases more than one.

[fol. 1563] Q. Well, in the case I just enumerated—in the case of the water faucet there are two of those.

A. Yes, but I wouldn't have got that impression from your interrogation.

Q. Well, the total hours is 26 hours—

A. Yes, and I would have to see the drawing, before the relation between that description and those hours would mean anything.

Q. Well, the whole water faucet, no matter how the plans are drawn, oughtn't to cost but about a dollar and a half, did it?

A. I don't know what that detail would show.

Q. Two of them would make it thirteen dollars for a plan?

A. I say I don't know what that detail shows.

Q. Well, you do know what the plans show, don't you?

A. No, sir, I don't. I would have to have the plan before me to see what it means.

Q. I mean as to the plans.

A. Yes, sir.

Q. It would be thirteen dollars per plan?

A. Mr. Love made that estimate, and I think Mr. Love would know just about how long it would take to make that drawing, too.

Q. Now, on page 207 you show a Detailed Layout of Main Units at the Ranger Compressor Station—275 preliminary hours and 230 final hours. What all does that detail—

[fol. 1564] A. Where is that, Mr. Fitzhugh?

Q. Page 307, about the middle of the page.

A. Well, that is a large drawing—one large drawing of the main compressor units at the Ranger Station No. 4.

Q. Well, does that show in detail the units themselves?

A. Yes.

Q. Well, why in the same station, on page 306, do you show one—two plans for Cooper Compressor No. 2, and two plans for Cooper Compressor No. 1, and two plans for Cooper Compressor No. 3?

A. Well, those are entirely different.

Q. Amounting to about \$1200.00 of draftsmen's hours.

A. Well, because those are individual drawings of those individual compressors, and the other is a layout of the set-up.

Q. Well, those are not a part of the layout plans, then?

A. No, they are part of the general plan of that station.

Q. Well, I will ask you this—

A. Those compressor station plans have fifty or seventy-five sheets.

Q. Those plans to which you refer now for the units themselves—the compressors themselves were furnished you in absolute detail by the Cooper-Bessemer Company, were they not?

A. Yes, but Lone Star Gas Company for its records does not use those plans used by the Cooper-Bessemer Company, [fol. 1565] Mr. Fitzhugh.

Q. Well, you don't have to change them a bit to make them—if you were to make them over you would make the same plans, wouldn't you?

A. Why no, those plans are not drawn and set up in the standard form required by the engineering records of Lone Star Gas Company, and these plans become a part of this structure connected with the appurtenant equipment.

Q. What is it you do, Mr. Connor—simply change the scale and re-draw the plans?

A. The plans that came there with the Cooper-Bessemer units were probably worn out long before the station was ever half finished. You don't suppose that those plans that came out there from the Cooper-Bessemer Company at the time they shipped those units would be set up in the permanent records of Lone Star Gas Company?

Q. I would, if they—I would think they would if they showed accurately the exact plan of the machine, yes, sir. Why wouldn't they?

A. Well, because when those compressors were set up in that station they became a part of a specially designed piece of equipment.

Q. Well, are these plans you show, tracings of the factory plans?

[fol. 1566] A. The final engineering records are tracings, yes.

[fol. 1567] Q. Before the recess, we were talking about the plans for the Cooper compressor at the bottom of page 306.

A. Yes, and I must have misunderstood your question, Mr. Fitzhugh. I understood you to say, were the final drawings tracings, and I answered in the affirmative, that they are in that form; but it is my understanding that your interrogation really indicated that you thought they were tracings of the sets furnished by the Cooper-Bessemer people. I do not think that is so. Those tracings are prepared from detailed studies made on the ground by the engineers who work out all of the detailed connections of the particular compressor layout, both overhead and underground piping.

Q. Well, Mr. Connor, the layout plans show the layout of the piping and so on, do they not?

A. Mr. Fitzhugh, it is only possible for me to explain what those plans show if I had a set of those plans before me. They are extremely complicated; they show every detail, both from a standpoint of general layout and then a detail from the standpoint of the independent units, the underground piping, the overhead piping, the foundation plans, each recording instrument in the station, and every single thing in that station is drawn in detail, and it would be impossible for me on this stand to identify or explain just what these individual designations might refer to.

Q. Well now, you have plans in here for the foundations, and you have plans in here for the layout?

[fol. 1568] A. Yes, that's right.

Q. Don't these plans that we are talking about now apply only to the compressor units themselves? The compressor machines?

A. You mean the layout plans?

Q. No sir, the plans I have directed your attention to.

A. Which page is that, Mr. Fitzhugh?

Q. At the bottom of page 306, where it shows two plans, Cooper compressor No. 2; two plans Cooper compressor No. 1; and two for No. 3?

A. In all probability that is a plan and an elevation.

Q. All right; now the Lone Star Gas Company did not design these engines, did they?

A. No, they didn't design the engines, but they made these drawings.

Q. How in the world could they change the plans of any of these engines?

A. The plans of the engines?

Q. Yes, the detailed drawings for these engines will be just the same when they are assembled on the foundation and piped and put in your compressor station as they were as shown in the drawings shipped to you by the company, won't they?

A. Why, you are absolutely mistaken.

Q. Do you say the change now, in these plans, from the factory plans would be for the purpose of showing a new elevation?

A. No, the factory does not make any plans of the arrangements of a compressor station of Lone Star Gas Company. The Lone Star Gas Company makes that set of plans.

[fol. 1569] Q. Well, those are not the plans we are talking about here, are they?

A. Well, certainly they are the plans we are talking about here.

Q. Oh, Mr. Connor, don't you know these plans are simply the plans of the engines themselves?

A. No sir; I know that they are not simply the plans of the engines themselves; I know directly the opposite.

Q. Didn't we, at Fort Worth, have these same identical plans, or ones just like them, there before the Commission, and don't they show in detail just exactly what the factory plans show?

A. They would show, so far as the individual compressor unit is concerned, no doubt, what the factory plans would show, but they would show that individual unit and a number of other individual units in relation to everything else in the station. That would be like drawing a plan of this room and including in the plans of the room the elevation and plan of the judge's desk as a part of this room. The factory might send you a plan of this desk; these plans take into account all of the equipment in the construction with relation to the units as well as the units themselves. The factory does not make any such plans as that.

Q. All right; turn to page 253. On this page you show a house count as made in various towns, including Fort Worth and Dallas. This, I believe you say, was necessary as a part of the engineering records; is that right?

A. No, that is not a part of the engineering records.

Q. Well, what was this house count made for?

[fol. 1570] A. It was made for the purpose of designing the pipe lines.

Q. Was that not done for the purpose of finding out your engineering data?

A. Yes, but the design of a pipe line and the determination of the capacity of a pipe line is not a final engineering record. The map of the pipe line would be the final engineering record.

Q. All right; the purpose of the house count was to find out how much load you would have to have in your pipe line?

A. No. It was to know how much capacity you would have to have in your lines.

Q. Well, that is the same thing as saying how much line you would need for the load necessary to serve the territory. Isn't that right?

A. Yes, that expresses it better.

Q. In each of the towns listed on this page, as well as the towns listed on page 351, and later on some additional towns for the third year, you made these house counts?

A. These house counts would be absolutely necessary in the reproduction of this property, and in most cases they were actually made by the engineering department. Lone Star Gas Company never makes a pipe line extension into any new territory before it first determines the necessary capacity of that line. The only way that the capacity of that line can be estimated is to determine the number of consumers who may be expected to be attached to that line, and for that reason the engineering department invariably makes a house count in every community in which the company proposes to serve gas, and from that information the engineer-[fol. 1571] ing department in turn calculates the size of pipe required to give adequate service at predetermined pressures, to that particular community.

Q. How did you get the number of field engineer days, the number of helper days and the number of helper man days for making the house count shown on page 351?

A. On page 351? For the past ten years the engineering department of Lone Star Gas Company has required of the field engineer or the engineer in charge of a field party, to make a detailed report showing the amount of work done and the character of the work done and the number of men

engaged in that work. Mr. R. A. Minter, chief office engineer of the Lone Star Gas Company, has had responsible charge of that work. Mr. Minter, under my direction, collected the data which are the basis for the estimate of the field engineer days, and the number of helpers who would be required to make the house counts in the individual towns.

Q. Are the number of hours you have computed in here for house counts based on any actual experience?

A. Yes.

Q. In what towns?

A. In practically all of these towns which are enumerated, because there was a house count made in each of those towns under Mr. Minter's direct supervision.

Q. When was the last house count made in Fort Worth?

A. I said that in practically all of these towns—now there was not a house count made in Fort Worth, to my knowledge, [fol. 1572] or in Dallas, but in the reproduction of the system, such a house count would absolutely be made.

Q. When was the last house count made in Waco?

A. I could not tell you.

Q. When was the last house count made in Wichita Falls?

A. I doubt if there was ever a house count made in Wichita Falls, Mr. Fitzhugh.

Q. What town can you think of, of some size, where a house count has been made? How about Abilene?

A. There was no house count made at Abilene.

Q. How about Cisco? Or Sherman, or Greenville?

A. I am not so sure Mr. Fitzhugh, about those towns. I know that every town which has been reached by an extension of Lone Star Gas Company in recent years, that each house in that town has been counted, and I know that in the reproduction of this property, that every house on the system would be counted.

Q. Well, all of those towns are towns where rate matters are now pending before the Railroad Commission; isn't that true?

Mr. Griffith: We object to that as being immaterial and irrelevant.

Q. Well, I just mean by that, that those are towns where you would be likely to have made a house count lately.

A. No, Mr. Fitzhugh; I don't think you know what I am talking about. When the Lone Star Gas Company makes an

extension into a new town, and they have made a lot in the period from 1920 to 1929, the towns to be served are selected [fol. 1573] and designated, and the engineers, under the supervision of the chief office engineer, go to these towns, count the houses and make such notes as would be informative, relative to the number of domestic consumers and industrial consumers who may be attached to the system or to the company's lines. Those counts are made for the purpose of determining the size of the pipe line that should be built to serve these communities. I can not see what relation that might have to a rate case that might come up years after the pipe line had been constructed.

Q. Mr. Connor, the point is this: There are lots of things you can use a house count data for besides just to find out the necessary capacity of that line to serve some particular community, are there not? Aren't there lots of things you can use about house count data that would have application to something besides just something to find the capacity of the line?

A. Not so far as Lone Star Gas Company is concerned, no.

Q. Well, if you were counting, and trying to make a survey to find the potential number of any class of consumers, say the domestic consumers in any town, you would make a house count, wouldn't you?

A. That is exactly what I have been trying to say.

Q. At any rate, you can not think of any large town on the system where you have made a house count lately?

A. No, not the large cities. I do not believe that Dallas or Fort Worth—or that in Dallas or Fort Worth that house counts were made, but if the property should be reproduced—and that is the sort of an estimate that I am making, a re-[fol. 1574] production cost estimate—the house count in those towns would absolute- be made.

Q. All right. Now Mr. Biddison, in his testimony, said that you gave him the figure for the final engineering records in the amount of \$765,690.35. That does not show in this exhibit, does it?

A. Yes.

Q. Whereabouts? Does that come under your general engineering costs?

A. No sir; it comes under the final engineering costs.

Q. Is that what you show on page 234, then?

A. There will be a summary on page 234. The details are

shown in subsequent sections of the report. Now if you have read the text of the report, you will note—and also if you have looked at the detail, you will note that in every case—and take for instance on page 251, for the first year's statistical engineers—there are certain groups of men designated as computers, inventory men, and stenographers; and that the hours that they work on the various items set out in the page are divided into preliminary hours and final hours. Now, the first engineering year as set up in this estimate is all general engineering, for the reason that it would be for the preparation of plans used in the construction of the property. However, for the purpose of saving typing and extending the exhibit, the final and preliminary hours are shown on the same page. Now, you will find that the final engineering record set up, the first detail will appear in the second year engineering section; the hours to which it refers [fol. 1575] are the final hours shown in the first year detail. Is that clear, Mr. Fitzhugh?

Q. Yes.

A. I think you will find that first detail for the Final Engineering on page 342, which sets out the sum of \$136,320.00, which is the sum shown on the summary, page 234.

Q. Now, then, the next section, Mr. Connor, appears to be General Supervision Costs, in a total of \$414,493.00, of which amount \$255,610.00 is for salaries, as shown on page 532?

A. That is correct. That summary sets out the General Supervision Costs which have not been allocated to specific property accounts, as distinguished from the supervision costs which I have estimated, but which Mr. Biddison included in his section of the reproduction cost estimate in the appraisal.

Q. Where do you show the detail of the allocated general supervision costs or supervision costs?

A. The summary is shown, Mr. Fitzhugh, on page 537.

Q. When you say "allocated," what do you mean?

A. I mean distributed to or assigned to a specific property account. In other words, the details of this summary are so broken down as to show the amount which would be chargeable to the general supervision of pipe line construction, to the general supervision of compressor station construction, to the general supervision of telephone line construction, and so forth.

[fol. 1576] Q. Now, the amounts shown for the general supervision cost on page 532 are the same type of expense as shown on page 537, except they are not the type of costs that could be distributed to specific property accounts; is that right?

A. No, not altogether. The general costs shown on page 532 include the costs of the office and the salary and expenses of the man who would be directly responsible for all of the construction. That individual I have designated in this estimate as the general supervisor of construction, or the general superintendent of construction.

Q. Whom did you consult with in arriving at these costs, Mr. Connor?

A. These costs were developed through a conference between Mr. Schmidt, General Superintendent of Lone Star Gas Company; Mr. Julian Foster, Chief Engineer of Lone Star Gas Company; Mr. Vandercook, Superintendent of Pipe Line Construction of Lone Star Gas Company; Mr. Tom Sutherland, Superintendent of Production and Drilling for Lone Star Gas Company; Mr. Reed, Superintendent of Telephone Construction and Equipment; Mr. Fred Richardson, Superintendent of Transportation Equipment; and Mr. Brieland, Safety Supervisor of Lone Star Gas Company.

Q. Do you mean by that, Mr. Connor, that you and all these gentlemen got together and fixed up the cost to be included for General Supervision?

A. No; I don't mean that. I mean that I am responsible [fol. 1577] for the preparation of this estimate; but in the preparation of it I went to each of these men and went over with him the work which was included in the three construction years which I have previously described.

Q. As a part of your—

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These men were each men who had many years of practical experience in doing the very things which the individuals assigned as the General Superintendent of Pipe Line Construction, and so forth, would be called upon to do.

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Q. You show as a part of your total for General Supervision Costs, Special Medical Equipment in the amount of

\$12,500.00. Of what does that equipment consist, Mr. Connor?

A. That equipment consists of the equipment which would be required and used in connection with the medical examination and first aid work during construction.

Q. Do you have a detail on that?

A. I don't know whether I have or not.

Q. Well, who gave you that cost, Mr. Connor?

A. The detail of the cost of the Safety and Personnel Section, which is a highly specialized department and division, [fol. 1578] were worked out by Mr. Brieland, who is the man responsible for the safety and personnel and medical section of the Lone Star Gas Company's organization.

Q. In addition to the equipment, you have included in here the services of four examining physicians, have you not?

A. That is correct.

Q. In addition to those four examining physicians, you have the services of other physicians located at various points over the property about to be constructed?

A. No; I believe that the examining physicians, together with the chief examining physician are the complete personnel.

Q. Are these full-time men?

A. They would be in the reproduction of the Lone Star Gas Company.

Q. And at what salary?

A. Chief Examiner, \$300.00 a month; and assistant examiners, \$200.00 a month.

Q. These men have the final say as to whether or not men are fit to work, do they?

A. They make an examination of men in order to determine whether or not they are able to perform the tasks which they will be called upon to perform and to discover any hidden weaknesses which might be the source of damage suits and injuries to other employees, or other costs of that character.

Q. Your Taxes During Construction starts on page 52 of [fol. 1579] Volume 8, does it not, the total amount for the item being \$173,818.00?

A. That is correct.

Q. Has your company in the past, Mr. Connor, had to pay any taxes for property under construction, but not completed as of the taxing date?

A. Yes; it has.

Q. In what amount and where?

A. I don't have the complete record, Mr. Fitzhugh, of taxes during construction actually paid by the company. I happen to have some notes on some cases where—I may not have that notebook with me, Mr. Fitzhugh. If I have not, I will bring it in the morning. No; I haven't it with me.

Q. Do you know what the amount historically incurred by the company has been during construction?

A. No; I don't know, and I doubt if anyone knows.

Q. Well, it is a fact, isn't it, Mr. Connor, that ordinarily when construction work is in progress, whether it be a pipe line, house, apartment, or what, if the structure is still incompleated as of the date of the taxing body's determination, that the work in progress is not taxed in Texas?

A. No, I would not say that that is so, Mr. Fitzhugh, because I know it to be a fact that material and supplies on hand, which are to be used in construction, are universally [fol. 1580] taxed, and furthermore, the experience of the company, which might be constructing its property piecemeal, would be no proper criterion for an estimate of the taxes which would accrue and be chargeable to the construction period of Lone Star Gas Company should it be reproduced as of this time.

Q. Well, now, granting that there are some cases where you are taxed, it is only on the materials and supplies on hand, isn't it?

A. No; I have personal knowledge of cases where an open ditch has been taxed, and pipe strung along the ditch has been taxed.

Q. Where was that now?

A. I will give you the reference in the morning.

Q. Has the Lone Star Gas Company, so far as you know, ever had an open ditch taxed?

A. I believe that it has. I would not want to make that statement as a definite one without referring to my notes; but it would be difficult for anyone to go through the records of Lone Star Gas Company—the early records, particularly, —and make such determination.

Q. Now, the taxing authorities in Dallas County are supposed to be fairly alert, aren't they?

A. It has been my experience, Mr. Fitzhugh, that taxing authorities don't let you get away with very much.

[fol. 1581] Q. But there was not one cent of taxes during construction paid on the Dallas Gas Company Building or the Lone Star Gas Company Building?

A. I don't know.

Q. If you put, Mr. Connor, an allowance in a rate base being used as a basis for the fixation of gas rates for taxes during construction isn't that in effect making an asset of what would otherwise be a liability to the Company?

A. I can't see, Mr. Fitzhugh, how in setting up an estimate of the cost of anything that the inclusion of one of the items of cost in that estimate would be making a liability out of an asset. That would be just as logical as to state that the cost of interest during construction and the capitalization of such costs would be making a liability or attempting to make an asset out of a liability. The Interstate Commerce Commission, and every other regulatory body which has prescribed a uniform classification of accounts for the capital structures of public utilities, specifically sets out that taxes during construction should be capitalized, and defines very clearly what taxes they refer to, and makes a special exception of special benefit assessments, for the reason that it is presumed that there will be a benefit accruing to the property equal to the amount of the taxes paid; [fol. 1582] but all other taxes—ad valorem taxes, and school district taxes—are all specifically set out in every classification of accounts that I have ever seen as items proper to be capitalized in the capital structure of the property under consideration.

[fol. 1583] Q. How did you go about finding your taxes, if you made no examination of the company's books, Mr. Connor?

* * * * *

A. For this reason. That it is plainly stated on the cover of Volume 1 of Defendant's Exhibit 28, of which the subject matter we are now discussing is a part, it sets out that this is a cost of reproduction new of the public service plant, property and business of Lone Star Gas Company. Reproduction cost is a matter of estimate and not a matter of outlay. If we were to take the cost of items which have been incurred historically, we would not make an estimate. The very nature of the task which was assigned to the engineers, was the problem of making an estimate, and not the de-

termination of historical costs; and furthermore, the manner in which the property would be constructed in reproduction bears no relation whatever to the manner in which it was constructed historically, because if this property were to be reproduced today there would be twenty-five gas fields from which this company could secure and does now secure its supply of gas. It is absurd on the face of it to assume that in the reproduction of this property the only line which would be built would be a line from Petrolia to Fort Worth, Texas, and Dallas, Texas, when as a matter of fact the Petrolia field would not be able to meet one-twentieth of the market demand of either one of those cities.

So there could be no relation between the program or the process which would be followed in reproducing this property as of January 1, 1933, as there was in the manner in which this property was historically constructed and built, and for that reason there can be no rational relation between what the company actually expended for taxes during construction on items of property which could be constructed and put into operation within a taxing period, and those taxes which would accrue and have to be paid on a property which would be constructed wholesale on a three-years construction program; and for that reason, Mr. Fitzhugh, I gave no consideration to what the company had actually and historically paid in connection with taxes during construction.

Q. Or whether, in fact, it actually paid anything or not? [fol. 1585] A. That is correct.

Q. Is it your understanding of a reconstruction cost valuation as a measure of value, Mr. Connor, that you are under obligations to include in your evaluation items which actually cost the company nothing?

A. Why, absolutely.

Q. Historically?

A. Yes. If those items are used and useful in the public service; if they belong to the company, and if it would cost money to reproduce them, it would make no difference to me whether they were donated or otherwise secured.

[fol. 1586] A. Mr. Fitzhugh, if I may interrupt you—at the close of yesterday's testimony you had directed a ques-

tion to me, and I had not completed my answer when the hearing was adjourned, and if I may I would like to complete that answer at this time?

Q. Go ahead.

A. The substance of your question was, I think: Would I feel it incumbent upon me in making a reproduction cost estimate as of a given date to include in that estimate items of property or costs which had not been historically incurred by the Company? I stated to you that if the Company at the time of the investigation was in possession of items of property which were used in the public service and which would cost money to reproduce at the date of the [fol. 1587] inquiry, I would feel that it was incumbent upon me to include the reproduction cost of those items in my estimate. I wish to amplify that answer by giving an illustration of what I mean, and also to make reference to testimony which has heretofore been given in this case. It seems to me that it should make no difference in making an estimate of this kind whether the property of Lone Star Gas Company was donated to the Company. It would make no difference to an individual who owned a piece of land whether he had purchased that land by out-of-pocket expenditure or had received it as an inheritance or as a gift, he would not feel that he would be justified in giving that property to the use of someone rent free merely because he had inherited that property. It does not seem to me that the source of the money whereby the utility acquires a piece of property has anything to do with the value of that property or the reproduction cost of that property at any specific date; and, therefore, I feel that it would be incumbent upon me to include any item of property which I might find in possession of Lone Star Gas Company as of the date of inquiry. Further, Mr. Huley, in his testimony, has made it clear that the books of Lone Star Gas Company do not fully reflect the actual cost of certain items properly designated as capital items and a part of the [fol. 1588] actual costs of the property and business of Lone Star Gas Company. That completes my answer.

Q. Now, if I understand you, Mr. Connor, you would include in reproduction evaluation an allowance for taxes during construction, even though no taxes at all had ever been paid for that item in the past?

A. That is correct, if in the logical process of reproducing this property taxes during construction would neces-

sarily and inevitably be incurred in that reproduction process.

Q. Now, regardless of those facts, Mr. Connor, isn't it a fact that the way that taxes are collected in Texas that there would never be any taxes during construction incurred in a reproduction of these properties?

A. Absolutely not. I don't agree with you at all.

Q. On yesterday you told us, Mr. Connor, that you would furnish us this morning some instances where taxes were paid on property under construction?

A. I did, and, Mr. Fitzhugh, I wish to apologize, because in coming down here I left that notebook in Mr. Griffith's room.

Q. So you are not this morning able to furnish us that information?

A. I will bring it at noon.

Q. Well, did you look up that matter last night?

A. Yes; I did.

[fol. 1589] Q. Can you give us the approximate amounts you found?

A. The amounts were not large; but they were taxes levied on open ditch and pipe strung, indicating that the political subdivisions in the State of Texas do assess and levy taxes upon property in that state. Furthermore, in the reproduction of Lone Star Gas Company, within a logical construction period, certain property would be complete, but still be considered from the standpoint of an estimate of this kind property in construction.

Q. Well, as soon as property is completed and goes into operation, it is not the sort of property you would have taxes during construction on, is it?

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A. It would be impossible and impracticable in the reproduction of Lone Star Gas Company not to have substantial parts of the system complete, but unable to be in operation.

Q. Isn't it a fact that during the entire corporate history of Lone Star Gas Company, from the time it was organized in 1909 to the present time, during which its entire mileage of four thousand miles of pipe line was built, that your Company has not paid over five thousand dollars as the total [fol. 1590] amount for taxes during construction?

A. I couldn't tell you, and I don't think anybody else could tell, Mr. Fitzhugh.

Q. Nevertheless, you have set up in this appraisal \$173,818.00 for taxes during construction?

A. That is correct; and I think it is an extremely small estimate of the amount of taxes which Lone Star Gas Company would incur should this property be reproduced.

Q. Pick out one item of property, say the automotive and construction equipment, and show how you would find the taxes during construction on that item of property?

A. Mr. Fitzhugh, I did not attempt to segregate any item of property. I took as the basis of my estimate of Taxes During Construction the taxes actually paid by Lone Star Gas Company for ad valorem taxes.

Q. The inclusions that you have made for this item of property—I am talking about Automotive and Construction Equipment—include \$105,930 for the first construction year; an additional \$105,929 for the second construction year; and an additional \$211,859 for the third construction year.

A. What page are you looking at, Mr. Fitzhugh?

Q. Page 25 of your Volume 8.

A. Yes; but those figures shown on page 25 have nothing in the world to do with the basic amount which I have used in connection with the estimate of Taxes During Construction.

[fol. 1591] Q. I know, but these amounts enter into the property that you considered would be—the additions of value; I should say, that were made to the property during these construction years?

A. Merely to set up a proportionate amount of the property which would be constructed during each year; but what I used for the basis of the money value were the taxes actually paid by Lone Star Gas Company. I tried to make myself very clear on that point.

Q. On page 55, Mr. Connor, about the middle of the page, you have a tabulation of the expenditures by period for physical property and upon which you based your Taxes During Construction?

A. No, sir; absolutely not. I based my Taxes During Construction on the payment by Lone Star Gas Company of \$301,820.00 for taxes; that is what I based my estimate for Taxes During Construction on, and that was what they actually paid on their public service property, less their

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general office building and certain real estate in connection therewith.

Q. What is the purpose of this tabulation on page 55?

A. The chief purpose of that tabulation shown on that page is to make a determination of the proportionate part of the property in construction which would pass into operation during the successive years of the construction program. It merely allocates, or divides, or segregates the [fol. 1592] amount which I used as the basis for my calculation of Taxes During Construction.

Q. Well, if I understand you now, Mr. Connor, you made no determination of the exact value or the exact amount of property that would be taxed?

A. I did. I got the relative value, or the relative reproduction cost of the items of property in successive years which would be in construction or in operation, and that was the sole purpose of the determination, concerning which you are examining me.

Q. What was the value of the property that would be taxed during the first construction year?

A. \$23,568,327, less \$10,259,635, or \$13,308,692. Now, I did not apply any tax rate to that sum of money. I simply made a determination of the proportionate part that sum of money was of the total property of Lone Star Gas Company in construction which would be subject to ad valorem taxes.

Q. Where did you get this twenty-three million and the ten million, that you just mentioned?

A. Refer, please, to page 21, Volume 8, of Exhibit 28, the following statement is found; under the heading, "Taxes During Construction," "After deducting from Direct Structural Costs the items included in the Pre-Construction Period on which taxes have been included in Other General [fol. 1593] Costs,"—and I refer there to the general office building and adjacent land—"the taxable expenditures were found to be as follows: Pre-Construction Period, \$3,049,057; Construction Period-First Year, \$20,519,270; Construction Period-Second Year, \$17,485,239; Construction Period-Third Year, \$9,128,368." Now, if reference is made to the sum of those yearly estimated expenditures, it is \$50,181,934. Now, if reference is made to page 55, of Volume 8, of Exhibit 28, those same figures will be found.

Q. Well now, where did you get this ten million business that you deducted from the twenty-three?

A. I evidently did not make myself very clear on my direct examination. If reference is made to page 57, Volume 8, of Exhibit 28, it will be noted that the \$10,259,635, which I have deducted from the first construction year, is explained in the text itself; as is indicated by the following language: "Less One-half Expenditure for the Period." In other words, that ten million dollars that you mention is one-half of the \$20,519,270 which I estimate would be expended during the first construction year.

Q. Well, does that ten million dollars plus represent property that has gone into use?

A. No; it represents property which was constructed during a year in which I estimate that portion of the construction would take place subsequent to January 1st of the year under consideration.

[fol. 1594] Q. Well, was the deduction made then to get an average for the year?

A. No; it was deducted for the purpose of ascertaining the property considered in this estimate to be under construction which would be in existence as of January first of the year under consideration, at which time the taxes would be determined.

Q. Well, wherein on page 57 or elsewhere do you make a deduction for the property that has gone into use?

A. On page 57, the same page, the same exhibit, under the heading "Construction Period—Second Year", it will be noted that the following deductions were made: the sum of \$41,053,566.00, which represents the accumulated expenditures up to that time—that is, the expenditures which would have been made in the pre-construction period, the first construction year, and the second construction year. The deductions are as follows: Less one-half of expenditures for the period,—that is, the second construction year—for the same reasons as I have previously explained, that the expenditures would be made subsequent to January first. Now, you asked me specifically if I made a deduction for property that I estimated would pass into operation. The second deduction is as follows: Taxable expenditures, property operated, \$23,568,327.00, making a total deduction of \$32,310,947.00.

Q. Doesn't your \$23,568,327.00, which represents property as of the first construction year, include automotive and construction equipment?

[fol. 1595] A. It includes all of the property of Lone Star Gas Company which would be subject to taxation, but in arriving at the amount of money which I have used for the calculation of taxes I did not apply my figure or percentage to the twenty-three million dollars; I used the actual taxes paid by Lone Star Gas Company, and simply used these successive estimates of property in construction and property passing into operation for the purpose of determining what proportionate part of the \$301,000 would be attributable to property under construction. Had I left out——

Q. So you are unable, then——

A. I beg your pardon. Had I left out of the total sum of money all automotive equipment, which you seem to be stressing, it would not have made one bit of difference in this estimate, because what I was using was a ratio finally after all.

Q. While you made all these deductions and computations, you didn't use them a bit, did you?

A. I think I have explained thoroughly just exactly how I used them. Now, if the taking out of a single item that you have pointed out would not affect the ratio, then the taking out of that item would be immaterial. Certainly it is important, however, to determine the ratio in the first place, and the steps taken were absolutely necessary in order to do that.

Q. Suppose you had eliminated from consideration entirely the whole of Transmission Line Equipment, would that have made any difference?

[fol. 1596] A. It would not have made any difference, Mr. Fitzhugh, if the taking out of the Transmission Line Equipment through successive years would not have affected the ratio of the property passing from construction into operation during each of those years. Now, that would not have been true—it would not be true in the matter of the particular property, any item that you are mentioning, for the reason that there is a difference each year in the sum of money represented by the transmission line in construction.

Q. Can you tell me, Mr. Connor, the exact amount of taxes during construction for any year on any item of property?

A. No. You mean from this estimate?

Q. Yes, from any estimate?

A. Why, no.

Q. Can you tell me the amount of taxes during construction that you figured on Line B?

A. Certainly not.

Q. Or for all the lines?

A. No. The matter is so clear and definite and explicit that I hardly think it would be necessary to make an explanation of that kind in addition to that which is already set out in the exhibit, for the reason that the \$301,000 which I have used includes taxes on Line B and Line A and every other line in the system.

Q. And the reason why you can not tell the amount of taxes on any line or any particular item of property is because you took the taxes for 1932 and applied a ratio to that to get your total taxes?

[fol. 1597] A. That is correct. It is reasonable to assume that the total sum of taxes paid by Lone Star Gas Company in 1932 would be applied proportionately to this property as a whole.

Q. The next item appearing in your appraisal is interest during construction in the amount of \$4,975,933.00?

A. That is correct.

Q. What did you say was the interest rate you used?

A. Eight per cent.

Q. Now, your company actually has borrowed at this time some seventeen million dollars?

A. Lone Star Gas Company?

Q. Yes, sir.

A. It has loans outstanding and payable to Lone Star Gas Corporation in substantial amounts. I do not know exactly what those amounts are.

Q. It is currently paying on the money thus borrowed six per cent interest?

A. It is paying Lone Star Gas Corporation six per cent on the money.

Q. Why don't you assume six per cent, then, Mr. Connor, as your interest rate?

A. Because Lone Star Gas Corporation could not secure, neither could Lone Star Gas Company secure in the open market funds to reproduce this property at six per cent per annum.

Q. Can you take any line or any item of property, as, for instance, gas well construction in the Panhandle field of Texas, and give us the interest during construction you

[fol. 1598] have considered to be attributable to that piece of construction?

A. No. I did not make a calculation of interest during construction upon the basis of segregating individual units of property, except in so far as I have made a definite allocation to construction years of certain of the major units of property which I estimated would be construed in each of the construction years, and those items are set out in detail in this volume.

Q. How long have you considered for the purpose of finding interest during construction that it would take to construct Line A?

A. Mr. Fitzhugh, I have set out in this volume definitely the years in which Line A would be constructed.

Q. Well, let me ask you—

A. Wait a minute. I am not through with my answer—I haven't even started.

Q. All right.

A. If reference is made to page 31, Volume 8, Exhibit 28, it will be found that I have estimated of the total reproduction cost of Line A that \$314,018.49 of that reproduction cost would be attributable to the first construction year; that \$3,383,796.73 would be attributable to the second construction year, and that \$296,133.69 of the reproduction cost of the line would be involved in the third construction year. Now, what I want to make clear to you, Mr. Fitzhugh is this: that Line A and Line B and Line C and Line E and [fol. 1599] Line L and Line K and Line O, in so far as they refer to specific property units of Lone Star Gas Company, are merely conveniences for the purpose of operation. Those lines would have no particular identity as Line A or Line B or Line C if this property should be reproduced.

Q. Mr. Connor, do you know the question I asked you?

A. Yes, sir. You asked me if I gave consideration to interest during construction of Line A, and I am explaining to you why in making a reproduction it would not be feasible to give consideration to the nomenclature attached to a line of an operating department of Lone Star Gas Company, because the property would not be constructed that way.

Mr. Fitzhugh; Mr. Reporter, would you mind reading my question back?

(Thereupon the Reporter read as follows: "Question: How long have you considered for the purpose of finding interest during construction that it would take to construct line A?")

Q. Now, will you answer that?

A. I have set out as definitely and clearly as I could how much money I estimated would be expended on Line A for each of the construction periods; in other words, that it would take three years to construct Line A in this construction, in the amounts I have set out. Now, what could be more definite than that.

Q. All right. It takes three years to construct Line A?

A. Yes, sir.

Q. How much time was actually spent in constructing Line A?

[fol. 1600] A. I don't know.

Q. Wasn't it six months?

A. That might true. But when I say it would take three years to construct Line A I do not mean that they would be out there working on Line A for three years, but on Line A, and in the amounts which I have estimated, that the construction would fall within the construction period which I have set out.

Q. You figure, do you not, that interest would be going on on some part of this line all three years?

A. No, sir. How did you get that idea?

Q. Do you mean to say, Mr. Connor, that the methods you used would not include the computation of some amount of interest on some part of Line A during the whole of the three year construction period?

A. Absolutely not. For instance, I estimate that \$314,018.49 would be constructed in the first construction year, and I think I have explained no less than fifty times that I have estimated that the property which was constructed in the first construction year would pass from construction to operation at the end of the first construction year. Therefore, so far as that expenditure is concerned, the interest would have fallen after the first construction year. Is that clear?

Q. Yes. Let me ask you this: On that \$314,018.49 you charged interest during construction, didn't you?

A. That is correct.

[fol. 1601] Q. Now, on the second construction year you have \$3,383,796.73, and you charged interest during construction on that part?

A. Yes, for that part of Line A. There is nothing cumulative there.

Q. In the third year you have \$296,133.69, for which you charged interest during construction on Line A?

A. Yes, sir.

Q. Now, to get back to the question, isn't it a fact that on some part of Line A in each of the three construction years you did charge and include in your appraisal some interest during construction?

A. No, sir. The question you asked me was whether or not I did not charge on some part of Line A interest during construction for three years, and there is not one item of property in this appraisal from cover to cover on which the calculation of interest during construction extends over one year.

Q. Well, what is the answer to the question? Did you include interest during construction on some part?

A. On some I did, on such proportionate part as would be constructed during the three years, but the time at which interest would accrue against that part would be only for one year; in other words, if I had taken all of the cost of the line for one year, that would have been the equivalent of the manner in which I proceeded.

Q. How long does it take to drill a gas well, on the average?

A. You will have to ask somebody other than myself, [fol. 1602] because I don't believe anybody knows how long it takes to drill a gas well.

Q. How long did it take actually to build Line B?

A. I don't know.

Q. You have assumed on Line B about the same as on Line A, that the building of it would be extended through three years, a part in each year?

A. No—no. You are mistaken—you are mistaken.

Q. On page 31, Mr. Connor, you show for Line B \$1,381,217.39 for the first construction year?

A. That is correct.

Q. You figured interest on that amount?

A. Yes, for one year, and one year only.

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[fol. 1603] It will be noted that in the second year Line Second B is estimated to be constructed, and if reference is made to the maps which clearly set out the construction program, it will be noted that Line Second B is a part of the second construction year.

Q. How long would it take to build a compressor station such as the Joshua Compressor Station, or did you have to know that to figure your interest during construction?

A. No, I didn't have to know that. It would depend upon the effort made to turn out a rapid job. I would say that the Joshua could be built probably within five months.

Q. But you didn't use any five-months period in finding your interest during construction?

A. No, sir; just as I wouldn't use, in estimating the reproduction cost of the Austin Gas Company, the fact that it takes four hours to lay a service, in finding my interest during construction in reproducing the Austin Gas Company property.

Q. Just to sum the whole matter up, there is not a single item or a single classification of property on which you could tell from this exhibit the amount of interest during construction, as calculated?

A. I think if you wanted to attempt to make an estimate [fol. 1604] of interest during construction upon that basis, that the information is pretty fully set out; but to proceed upon that method or that basis is—

Q. Well, just pick out any class of property you want to, Mr. Connor, and show how you would make the segregation for interest during construction on that.

A. Do you mean you want me to make an estimate of what the cost of interest during construction on the property of Lone Star Gas Company would be if I would pick out each of these line systems and estimate how long it would take to construct each one of those, and calculate the interest during construction on those lines, assuming that the minute those particular lines were constructed that they would go into operation? Is that what you mean?

Q. I mean this, Mr. Connor,—pick out any line, any compressor station, any house, any measuring station structure, any unit at all that you want to, and just tell how long it would take to construct it, and what the interest during construction would be, as figured from your exhibit.

A. No, because I have not attempted in this exhibit, Mr. Fitzhugh,—and I have attempted to explain why—to say

how long it would take to construct Line A. I have set out the amount of money which would be involved in the construction [fol. 1605] of these various lines and the compressor stations, by years; but the mere fact that a piece of property is completed, or a unit of property is completed, in the construction of a property such as Lone Star Gas Company, is no evidence or indication that it would go into operation the minute of its completion. Why, in the reproduction of a property such as Lone Star Gas Company, the first thing you — would be to drill gas wells, because you would have to do that to demonstrate the fact that you had a gas supply, and it would be several years before any one of those gas wells ever produced a single foot of gas which would go into the system of the company.

Q. And in computing your interest during construction you figure that wells would be drilled the first thing and that they would lay out for some time before being attached to the system?

A. Why, certainly; because that is exactly what would happen.

Q. In spite of the fact that from the history of your company, the gas was lying there, just crying to be put into your mains, when at all times—

A. I don't think that is true, Mr. Fitzhugh. It may be that at several periods during the history of Lone Star Gas Company there has been a substantial amount of gas [fol. 1606] available, in excess of the immediate requirements; but there have been a great many times when there was not enough gas to keep the people in Dallas and Fort Worth from being pretty cold.

Q. Isn't it a fact, Mr. Connor, that for the last three or four years in the Panhandle Field there are lots of people who would like to attach to your lines and would be tickled to death to sell their gas to you at two cents per thousand cubic feet?

A. I don't know so much about it at that price, Mr. Fitzhugh.

Q. The total expenditures upon which you figure interest during construction, as shown on page 68, is \$59,512,984.00—is that correct?

A. That is correct.

Q. Now, where did that figure come from, Mr. Connor?

A. Refer, please, to page 22—I beg your pardon, Mr. Fitzhugh, refer, first, to the bottom of page 21; Volume 8,

Exhibit 28. Under the heading Interest During Construction the complete thing is found: "From the Schedule of Expenditures by Periods, including the distributed calculation of Taxes During Construction, the total expenditures by periods was found to be as follows: Pre-construction Period, \$6,895,832.00; Construction Period—First Year, \$22,673,380.00; Construction Period—Second Year, \$19,326,719.00; Construction Period—Third Year, \$10,617-[fol. 1607] 053.00"—or a total of \$59,512,984.00, which is the same figure as is found on page 68 of the same exhibit and volume.

Q. Do you have in your exhibit, Mr. Connor, a detail of the pre-construction period in the amount of \$6,895,832.00?

A. That will be found, Mr. Fitzhugh, on pages 25 and 27 of Volume 8, Exhibit 28. On page 25, under the heading of Direct Structural Costs, it will be found that the Pre-construction Expenditures are estimated to be \$3,580,178.00, and under the heading of General and Undistributed Costs, on page 27, it will be found that the estimated expenditures attributable to the Pre-Construction Period are \$3,591,487.00. The sum of those two items will result in the figure used.

Q. Well, the sum of those items would be, instead of the figure you have used, \$7,171,665.00, wouldn't it?

A. That is correct.

Q. What is the trouble there?

A. I have eliminated certain items, which are the General Office Building and General Office Land. I think that accounts for that difference.

Q. Now, those are the only two eliminations that you have made from the amounts shown on pages 25 and 27?

A. I think that is correct.

Q. On page 27 you have included in the total, \$275,833.00 for interest during construction?

A. No, Mr. Fitzhugh, the summation is made—I will [fol. 1608] have to explain that to you. What page are you referring to now, Mr. Fitzhugh?

Q. 27—Page 27, Volume 8.

A. No, that is the reason for that difference. I wish to make that explanation, that it is not the General Office Building and Land that I omitted. It is the charge of In-

terest During Construction, in the sum of \$275,833.00. Now, what I do is to—

A. Yes, that is correct; and it should have been.

Q. —and the Land?

A. That is right; and it should have been, because in my calculation of Office Building Costs I made no allowance for interest—I eliminated in my Estimate of Construction, Taxes during Construction, because I had included the taxes. Now, the grand total shown at the bottom of the page—Page 27, includes Interest During Construction; but the totals which I have used for the calculation of Interest During Construction do not include Interest During Construction in any of the years; including the Pre-construction Period.

Q. So in no instance have you figured interest on interest?

A. No, but I think that it would be a proper thing to do.

Q. The next section in your exhibit is Going Value, or Cost of Business Development. The amount of this allowance, as made by you, is \$7,792,888.00, is it not?

[fol. 1609] A. That is correct—rather, Mr. Fitzhugh, to be exactly correct, that is my estimate of what it would cost to reproduce the business of Lone Star Gas Company.

Q. What is the most important item entering into your Going Value allowance?

A. The most important element which enters into my allowance are the fixed charges which would accrue during the period of normal business development upon that portion of the Company's property which would not or could not, under a normal business development program, be used.

Q. On page 72, Mr. Connor, you state that Going Value is intended to cover the reproduction cost of various elements of worth or value.

A. That is correct.

Q. One of the things noted on that page that you claim adds value to your Company's property is the fact that there are 230,000 domestic consumers receiving their supply of gas from your Company—isn't that correct?

A. That is correct, through the facilities afforded by Lone Star Gas Company for the delivery and transportation of natural gas—for the transportation of natural gas.

Q. Does your Company serve any domestic consumers?

A. Indirectly, it serves 230,000.

[fol. 1610] Q. Well, the only companies that you sell gas to are the distributing companies—isn't that right; they are your customers?

A. In the main, that is correct. Of course, Lone Star Gas Company sells a small number—a relatively small number to what are called right of way consumers.

Q. Now, of those 230,000 domestic consumers you mention here are the customers of the distributing companies, aren't they?

A. Directly, they are the customers of the distributing companies; yes, that is true.

Q. Isn't it a fact, Mr. Connor, that in order for you to consider these 230,000 domestic consumers as customers of Lone Star Gas Company, that you have to regard yourself and the distributing companies as just operating one business?

A. Why, of course; the transportation of natural gas by Lone Star Gas Company and the subsequent distribution of it by a distributing company constitutes to things which are somewhat different in their details but practically alike in their general characteristics. The transportation company—the Lone Star Gas Company—brings the gas up to the city gate of the distribution system, and the gas is there received by the mains of the distributing company and [fol. 1611] transported to the meters and outlets of the individual domestic consumers.

Q. Well, you figure, don't you, Mr. Connor, in estimating your Going Value that the distributing companies and the pipe line company work as one entity, and that the customers of the one are the customers of the other?

A. Not necessarily. What I have done is to estimate the rate at which Lone Star Gas Company would secure that portion of its business and which it now has, as represented by the sales of gas for which it receives a domestic rate.

Q. Well, you do figure that the distributing companies act as the agencies for the delivery of gas given them by the pipe line company, directly to the domestic consumers?

A. Certainly, you have to have a distribution agency to make the ultimate delivery of the gas to the domestic consumers.

[fol. 1612] Q. And you in this appraisal have assumed that the distributing company or the companies, are the agents and work in conjunction with the pipe line companies to deliver directly to domestic consumers?

A. I have not considered that they are agents or anything else.

Q. Well, how in the world, Mr. Connor, are you going to *going to* claim that these 230,000 customers, which are customers of the distributing companies, are going to add to the value of the pipe line company unless you consider the pipe line company and the distributing companies as one?

A. Because they don't have to be one. The operation or the process of delivering gas is necessarily continuous, just like the process of delivering electric current would be continuous, but whatever value there is that I attribute to Lone Star Gas Company grows out of this fact—that if the distributing companies did not have a single customer, Lone Star Gas Company would sell no domestic gas.

Q. Well, if you were raising produce, Mr. Connor, and brought your produce to market and sold it to a grocer and the grocer in turn sold it to consumers that came into his store, would the man that eventually bought the groceries at the grocery store be your consumer or the groceryman's consumer?

A. It would not make any difference to me, if I was delivering that produce, Mr. Fitzhugh. If I was in the produce business, and let us say that I depended for the sale of my commodity upon the subsequent sales of the man to [fol. 1613] whom I made by delivery. I would then be limited in the extent of the development of my business by the business ultimately secured by the retailer. The development of his business would in turn insure the development of my business, and yet the two operations would be conducted by two people, one independent of the other, but there would be no question but what my business as a deliverer of my commodity to the ultimate consumer would reflect the result of the sales which he made. If he had no customers, my business would not be developed.

Q. Mr. Connor, you have testified in several cases involving rates of distributing companies which were affiliated with the Lone Star Gas Company, have you not?

A. Certainly.

Q. In those cases have you figured that the customers of the distributing companies add to and give going value to the properties of the distributing companies?

A. Why, most certainly. They are two separate properties. Let's take two properties, say a pipe line company—

* * * * *

[fol. 1614] You have a distributing system here, for instance, we will say, which costs Five Million Dollars, and you have a pipe line company which costs Fifty Million Dollars, and the going value which is developed and included for the distributing plant includes only the property devoted to the distribution of gas. If there was a common ownership of those two properties from one end to the other, do you think you would stop and segregate one element of that property and set it on one side and say it had going value, and the other element which also contributed to the same value, did not have any? I don't think so.

Q. Mr. Connor, when you testified for distributing companies, you used the customers of distributing companies as an item contributing to the value of the distributing companies, didn't you?

A. Yes, and they likewise contribute to the value of the pipe line company.

Q. And then when you get on the stand and testify for the pipe line company, and the going value as to a pipe line company, you use those same customers as contributing another and a new value to the pipe line company?

A. Certainly I do.

Q. If you regarded the pipe line company and the distributing company as one integrated company, just as you suggested, you would only get those customers in there once, wouldn't you?

A. Yes, but I would get them in there on the combined [fol. 1615] values of the property.

Q. But you wouldn't use it twice?

A. I don't use it twice. I apply it to separate sections of an investment required to render the ultimate service.

Q. All right. Now, Mr. Connor, to analyze your proposition a little bit further, do you think that when customers become attached to a pipe line, ipso facto the property of the pipe line company becomes worth more?

A. I think that—

Q. Well now, Mr. Connor, can't you answer this question Yes or No?

A. Certainly it is worth more than merely the reproduction cost of the property.

Q. And the same thing would be true in a distributing company case. The attachment of customers to a distributing company's lines ipso facto contributes a value to the distributing company's property?

A. Yes, it would be worth more.

Q. And the creation of this additional value makes for higher rates, doesn't it?

A. I don't know that that construction should be placed upon it. It is a question of value and worth, and what the company is entitled to earn upon.

Q. Well, if your company is entitled to get ten per cent, as you say it is, on the value of its properties used and useful, it would get more in rates if its properties are worth Fifty Million Dollars, than if the property is worth Forty Million?

A. It would be legally entitled to higher rates—or to more [fol. 1616] revenue, I should say.

Q. And it would get more money from the gas consumers on the higher valuation?

A. It would be entitled to a fair and reasonable return on the value of its property, no matter how that value might be provided.

Q. So when you analyze this going value, Mr. Connor, based upon the attachment of consumers, it simply means that the consumers have to be penalized for having attached to your lines, through higher rates; doesn't it?

A. It doesn't mean any such a thing, Mr. Fitzhugh.

Q. Well, will you explain to me now, why it doesn't mean just exactly that?

A. I can make my explanation very clear, I believe. The attachment of business to a natural gas pipe line, from the time that it goes into business, up to the time that it will secure its normal business, is a gradual process. It can not be any other kind of process. Every record connected with the history of Lone Star Gas Company's operation clearly demonstrates that fact. Now when the owner of that property puts it into service, he is confronted with the absolute certainty that it is going to take a certain definite period of time for him to acquire his business, and that is going to cost him money. Now, the fact that that costs money is just as much a part of the cost of rendering the ultimate

service to that consumer, as the cost of buying the pipe, and if such costs are inevitable and are not contributed to by bad [fol. 1617] management and a series of operating losses over an operating experience of a company, but are the inevitable costs of development of the business, that cost represents a part of the cost of developing that property just as much as any other element in the property represents a part of the cost of the property, and of course the consumer should pay a reasonable return upon such costs as are necessarily incurred in rendering him service, and I can not distinguish between that cost and any other cost which is a properly capitalizable expense.

Q. Mr. Connor, suppose your company was doing business here in Austin, and that you had ten thousand domestic consumers of gas, obtaining gas at a certain domestic rate. Suppose then that ten thousand should become twenty thousand domestic consumers. Isn't your proposition, as shown in your exhibit, that through the addition of those new customers the properties and business of the company doing business here in Austin would be worth more and hence they would be entitled to a greater amount of money per year, and hence they would be entitled to increased rates?

A. I think that if the company had made provision for the attachment of ten thousand additional consumers——

Q. Well, is your answer Yes or No?

A. The property would be worth more, yes.

Q. Your answer is Yes?

A. Yes. I don't know whether they would be entitled to higher rates or not. That is a matter which would take into consideration a number of factors of which you did not make mention.

[fol. 1618] Q. Now, suppose, Mr. Connor, instead of 230,000, your company had only 200,000 domestic consumers as of the date of your appraisal. What would have been the effect on the total value you gave to going value, which was \$7,792,000 plus?

A. It would not have made any difference, Mr. Fitzhugh, had the 200,000 that you are referring to represented the ultimate saturation which you could expect on the system as constructed.

Q. Well, does 230,000 domestic consumers represent the saturation?

A: I think it represents a fair degree of saturation.

Q. Suppose you had only had 100,000 domestic consumers. What difference would that have made in your final value?

A. That would have made a substantial difference.

Q. Does your allowance for going value include an allowance or estimate of the value of your trained personnel?

A. No sir.

Q. What is this allowance of \$200,000.00 you have made for personnel costs?

A. That is an estimate of the out of pocket costs which would be required to get together a personnel such as Lone Star Gas Company now has, together with the labor turnover which would take place during the early years.

Q. Well, doesn't that refer, Mr. Connor, to what, or represent in your opinion what it would cost to train an inexperienced and new organization up to the present operating efficiency of your operating organization?

A. No, sir; it does not.

Q. In the past, Mr. Connor, your company has always [fol. 1619] paid salaries commensurate with the abilities of a man, hasn't it?

A. Yes, I would judge that they have paid salaries which would be commensurate with the abilities and duties of the men employed by the company.

Q. If you took on a man of little ability, you would not pay him a very high salary, would you?

A. Mr. Fitzhugh, in certain classes of departmental employees, rather standard salaries are paid for certain types of work—

Q. I know, but—

A. —and unfortunately it is impossible to reward individuals employed in capacities of that kind in proportion to their actual relative efficiency; and men become more efficient, of course, in their work after they have become familiar with it.

Q. It is the aim of your company in general, though, isn't it Mr. Connor, to pay just what a man is worth?

A. Yes.

Q. And certainly no more than he is worth?

A. You are correct.

Q. Isn't it fair to assume, Mr. Connor, that the salary

will in all cases, as nearly as possible, reflect what the man is really worth?

A. That is not altogether true. I think that if there is any difference between the amount paid to an employe and the amount deserved, by reason of certain peculiar qualities, that in practically every case in the Lone Star Gas Company organization with which I am familiar, the man is perhaps worth something in excess of that which he receives.

[fol. 1620] Q. Now for you to make the allowance that you have included here of \$200,000.00 for personnel costs, don't you have to assume, Mr. Connor, that the men that the company hires in the beginning of the business will fail to give dollar for dollar value for their services in that amount?

A. No, you would have to spend a very large sum of money, Mr. Fitzhugh, just getting an organization like this together, before they even moved into their offices. You would have to pay for the transportation of a large number of men. You would have to move their household goods from other places, because there is no city in this part of the country which prior to the initiation of the natural gas project such as Lone Star Gas Company, could furnish the personnel of Lone Star Gas Company. Those men have come from all over the country; they have come from places where the natural gas business has been developed over a long period of time. They are not people that could be picked up in Dallas or Austin or Fort Worth or Houston or anywhere else, and it would cost a great deal of money to assemble and bring together an organization of that kind.

Q. On page 138, Mr. Connor, after telling about what a fine trained personnel you have, you make this statement: "The existence of this coordinated personnel and its definite association with this particular property constitutes an element of value that would be recognized and paid for by any willing buyer of the property as of January 1, 1933". Now, Mr. Connor, if a purchaser came along and [fol. 1621] bought your properties, he would not buy your employes, would he?

A. No, he wouldn't, but they would be there.

Q. What I mean, Mr. Connor, is that you have attempted to say here that the existence of the employees, and the fact that the company has employees, is a property right or a property value that can be measured in money. Isn't that what you are saying?

A. No. I said it could not be measured in terms of money.

Q. But you have set up \$200,000.00 for it.

A. No, I did not, Mr. Fitzhugh. I said that would be costs which would be incurred in bringing such an organization as this together, and getting it organized and under way. It hasn't anything to do with the value which I would attribute to the trained personnel of Lone Star Gas Company, because I think it would be worth many, many times that amount of money.

Q. You say here in the very next sentence: "The existence of this element of value is not difficult to determine, but the worth of it, measured in terms of dollars, can not [fol. 1622] be fixed "by any mathematical form"?"

A. That is correct. I do not think anybody would have any difficulty in coming to the conclusion that a trained organization of experienced men, who had had a long and intimate contact with that property, would be an element of value, and that is just what I say. The existence of that value would be easy for anyone to determine; I think anyone would come to that conclusion after they had met and become acquainted with the men who are working day in and day out in the operation of the Lone Star Gas Company.

Q. But you do say, right in this exhibit, don't you Mr. Connor, that this trained personnel which the company now has, is an element of value that can be measured in dollars and cents?

A. No, I say the existence of it is readily ascertainable, but the determination of what it should be can not be determined mathematically.

Q. Refer to Exhibit 36, Mr. Connor. As shown on this chart as of December 31, 1931, you assume that 97.72 per cent of the business is now developed, or was developed as of that date, do you not?

A. Would be developed, should the property be reproduced.

Q. How many feet of gas did the company sell during 1931?

A. In 1931?

Q. Yes.

A. I don't know that I have those figures with me, Mr. Fitzhugh.

Q. Well, how would you go about working out this percentage if you didn't, that you used for business development?

[fol. 1623] A. I have the money sales or the money received by Lone Star Gas Company for various classes of sales for the year ended September 30, 1931; and it was from that basis that I made the determination. I was interested in the over-all dollar revenue.

Q. What was the dollar revenue for 1931?

A. The total sales for domestic gas amounted to \$7,240,419.68. That is the money that Lone Star Gas Company received during that period for gas sales at domestic rates.

Mr. Griffith: Do you refer to the twelve months ended September 30, 1931?

A. That is correct. Now, the industrial sales or the revenue from industrial sales amounted to \$2,184,540.22 for the same period.

Q. You used only the domestic figure, did you not, for finding your 97.72 per cent figure?

A. I used only the domestic sales; that is correct.

Q. In 1933, what were the domestic sales?

A. I don't know, Mr. Fitzhugh.

Q. Wasn't it around Five Million Dollars and something?

A. I am not certain.

Q. Well, you do know that domestic sales dropped off substantially in 1933, from the 1931 figure?

A. They may have, yes.

Q. Now, if you had used the 1933 or the 1934 business on the basis of domestic sales, for the finding of your percentage of business developed, you would only have about 70 per cent, would you not?

[fol. 1624] A. No, I would not come to that conclusion.

Q. Well, about what would be the approximate amount—would it be 75 per cent?

A. No, I would not think that would have anything to do with it, Mr. Fitzhugh, because I believe that as of the date of the inquiry that Lone Star Gas Company had its prop-

erty saturated, in view of the conditions existing at the time of the inquiry.

Q. You mean it had its properties saturated as of what date?

A. As of this date.

Q. Well, if it had more sales prior to this time, Mr. Connor, you had more saturation at that time, didn't you?

A. Yes, but that was a different time.

Q. So if you take the peak time when you had the most saturation, you certainly have less saturation now, haven't you?

A. It has less saturation now, perhaps, compared to the peak time of its business, but that might be not the ultimate saturation of sales which the company could acquire or could be expected to acquire at this time.

Q. Well, is there really very much to this saturation business anyway, Mr. Connor? Don't you expect to be getting more customers as the years go on?

A. Not without the extension of facilities to secure new customers, or the provision of additional capital to meet additional consumer needs.

Q. Certainly the saturation you had in 1912 does not compare with the saturation you had in 1915, or in 1920, or on [fol. 1625] down through the years to the present time, does it?

A. It might in some towns, yes.

Q. You have constantly been adding customers all the time, have you not?

A. Yes, and the company has been constantly spending millions of dollars in additional capital to provide for these new customers.

[fol. 1626] Q. Mr. Connor, there is no way, is there, to tell as of December 31, 1931, or as of December 31, 1933, or as of the present time, whether the business of the Company at any of those dates anywhere approaches what might be the saturation point?

A. Yes.

Q. Either as to customers or customer consumption of gas?

A. Yes. I think that men experienced in operating natural gas properties can estimate pretty closely what the per cent of saturation actually is at any given time.

Q. Well, in order for your chart, known as Exhibit 36, to work out and be correct, you had to assume that as of the date December 31, 1931, one hundred per cent of the business of the Company had been developed, did you not?

A. I assumed that as of that date that what I construed to be normal customer use and saturation had been secured.

Q. And that the Company as of that date actually had one hundred per cent of that business attached?

A. I would not say one hundred per cent of the business attached.

Q. Doesn't that chart show that?

A. It shows *one hundred per cent of what I would consider normal*. The point I wanted to make, Mr. Fitzhugh, was simply this: That in any business of this kind there is always some relatively small part of the property which is probably in the process of acquiring saturation. If the [fol. 1627] Lone Star Gas Company ceases to grow, from the standpoint of extensions and the taking on of new communities, then that condition itself will be finally eliminated.

Q. Mr. Connor, you used this same chart—the same thing exactly—in testifying before the Railroad Commission, did you not?

A. No, sir; I did not.

Q. What changes have you made in it?

A. I have made the changes in it which are necessary by reason of the changes in the reproduction cost estimate, and in certain re-arrangements in the estimate of certain costs.

Q. Well, what are the main differences in the estimate that you have made of going value in this appraisal and in the one that you made before the Railroad Commission?

A. There is no substantial difference, Mr. Fitzhugh, except that this is not at all the same chart which was introduced in that hearing.

Q. Well, you have still taken the volume of domestic business as of December 31, 1931, have you not?

A. That is correct; and in doing that, I simply ascribed to the various construction—or various business development periods, the proportionate part of the total sales, domestic, of Lone Star Gas Company, which would be acquired in that development year. Now, the total sales—the total amount of money involved in the sales in succeeding years will, no doubt, vary; but what I was endeavoring to do by [fol. 1628] the use of these sales was to determine what

proportionate part of the total domestic sales enjoyed by Lone Star Gas Company would be secured from specific towns; and I don't think that that ratio would change from year to year, even though the total amount of money received from the sale of domestic gas might show a variation. In other words, Mr. Fitzhugh, if you look at the chart, the reason for the use of those sales was to determine what proportionate part of the total domestic gas of Lone Star Gas Company would be secured through the attachment of the cities and towns which would be attached in conformity with the construction program outlined on pages 16, 17, and 18, of Volume 8, Exhibit 28. Now, as you have indicated, the sales may change from year to year, but I believe that the percentage of the total sales which would be represented by the sales in the metropolitan areas of Dallas and Fort Worth and the various and sundry towns included in the estimate would remain approximately the same.

Q. On page 71, Mr. Connor, you have \$8,042,414—of the total of eleven million dollars plus before deduction of your credits for net industrial revenue to give your final going value—which you have denoted Interest and Return?

A. That is correct.

Q. You mean there that Interest and Return are the same, or do you have two items there?

[fol. 1629] A. They are two separate items.

Q. And how much of that amount is Interest and how much Return?

A. Well, I don't know whether I can tell you or not, Mr. Fitzhugh. Perhaps the Exhibit discloses that fact; I will try to see. Turn to page 107, Mr. Fitzhugh.

Q. All right, sir.

A. You will notice that for the first development year, and the second development year, the calculations are made upon the basis of eight per cent, and for the subsequent years on the basis of ten per cent. That is the reason for the terminology used on page 71. In other words, while the plant was in the process of construction, and only partially in operation, I used what I construed to be a fixed charge identical with the interest which I used during the construction period; and after the property became wholly operative, I used what I construed to be a fair return upon the fair value of the property.

Q. In other words, you started construction of your plant, and while the plant was being constructed you included as

one of the overheads Interest During Construction at the rate of 8 per cent, did you not?

A. That is correct.

Q. Then as soon as it went into active operation you discontinued the charge as Interest During Construction, but continued it as Return or Interest on Idle Plant?

Q. I continued it, Mr. Fitzhugh, to the extent that the [fol. 1630] property which went into service, which I estimated would go into service, would be practically as idle as property under construction, by reason of the experience afforded by the history of Lone Star Gas Company in the matter of the rate at which business could be secured on the property going into operation.

Q. It is a fact, Mr. Connor, that as soon as a public service corporation starts business of serving the public with its product it is entitled to a fair return on its fair value?

A. I think that that is a legal construction of what a public utility is entitled to receive for its service.

Q. So, as soon as the plant starts actually serving the public it is entitled to such rates as would compensate it adequately; isn't that true?

A. Theoretically, that may be true; practically, it is not possible.

Q. Why isn't it possible?

A. Because a public utility going into initial operation would construct its property in order to anticipate the probable business which it could reasonably secure in the future. Now, that would not be true of some public utility businesses—

Q. Well suppose—

A. Just a second, Mr. Fitzhugh. —but in the case of a natural gas pipe line company, that applies with particular [fol. 1631] force, for the reason that the cost of a natural gas pipe line increases almost directly in proportion to the increase in the diameter of the pipe installed. In other words, a four-inch pipe will cost approximately one-fourth as much to lay as a sixteen-inch pipe, but the capacity to deliver gas of the sixteen-inch pipe is about thirty-five times as great as the capacity of a four-inch pipe to deliver gas under the same pressure and under the same conditions. So that a natural gas utility building a pipe line system to a potential market would be better off, and so would the public in the end be better off, to construct that system into the market with an approximate capacity to serve that market

ultimately, rather than to construct it in increments which would provide ratably for the business which could be acquired. So that there would be an investment in the initial stages of this reproduction, which the limited number of consumers who would be attached, and the limited amount of gas which they would use by reason of the attachment, that business could not under any rate schedules which could be devised provide a reasonable return on the value of the property used in their service; furthermore; it would be impracticable and poor business to attempt at the initiation of a new service of this kind to attempt to put into effect rates which would have the very effect of driving off the development of the business, rather than attaching the business; [fol. 1632] and for that reason, it is impossible, and particularly so for a natural gas pipe line company building into a new market, to receive during the normal development period returns which will be fairly adequate to pay a reasonable return on the fair value of the property.

Q. And because you say, Mr. Connor, that your Company would not be able to get an adequate return which would compensate it for all of the costs of idle plant, if there is any idle plant, you would want the consumers to reimburse your Company for those initial costs at the rate of ten per cent?

A. No; I think what the consumers would do, Mr. Fitzhugh, would be to pay for the service that was rendered by the Company. I don't think that the consumers by doing that would contribute anything to the capital of the Company, or specifically, to any part of its operating expenses. They would simply pay for the service that the Company renders.

Q. When your Company started out in 1909, as a matter of historical fact, Mr. Connor, wasn't its success practically instantaneous from an earning standpoint?

A. The Company, I think, did very well during the initial years of its business. The whole project at that time was a very simply lay-out. I do know that in subsequent years that followed the initiation of service into the cities of Fort Worth and Dallas that it was largely due to the revenues [fol. 1633] which were derived from non-service property that the Company was able to maintain itself and continue in business.

Q. Does it make any particular difference, Mr. Connor, whether the Company has in use its plant one hundred per

cent, or whether it only uses fifty per cent of its facilities, so long as its return is adequate?

A. I don't think, Mr. Fitzhugh, that a company whose facilities were only used to the extent of fifty per cent could secure a rate which would yield a full and fair return upon the value of the property, or the reproduction cost of the property.

Q. Well, the return is the key to the whole situation, isn't it, Mr. Connor. If you were doing hauling, using a wagon, it would not make any difference to you whether you filled your wagon up and hauled a whole load each time, or hauled a quarter of a load each time, if you got the same pay for it?

A. No; if I was in the hauling business, and that was the characteristic of my type of hauling, I would be satisfied with what constituted a fair return on the use of my equipment and facilities.

Q. And the same in the natural gas business, it would not make any difference whether you used your equipment one hundred per cent, or fifty per cent, so long as you were making enough money; is that right?

[fol. 1634] A. I don't think that in making a reproduction cost estimate that consideration should be given to what the company has earned, or has not earned in the past, as an operating matter, and I have given no consideration to that fact, Mr. Fitzhugh.

Q. Have you made any study of the history of the company in the past, so far as it concerns the cost of developing business?

A. Yes; I think I read into the record—I am sure that I did—the exact experience of Lone Star Gas Company and took several of its major trunk lines and showed the per cent of business which those lines had attached each year after they were placed into operation. Now, as Lone Star Gas Company built those lines and put them into operation and received a small amount of revenue the first year, and received a small amount of revenue the second year, and received a small amount of revenue the third year, and the fourth, despite the fact that the fixed charges on Taxes and Return, as you may desire to term it, and depreciation, accrued on those lines without respect to the volume of gas transported through those lines, I think that process cost the Lone Star Gas Company money even though they were making money as a whole. It would not make any difference

to me if I were making a certain sum of money if I lose a certain sum of money during that same time. The fact that I was making money over all would not in any way eliminate [fol. 1635] or remove the fact that I might have lost money in connection with a certain phase of my business during that same time. Now, the fact that Lone Star Gas Co Company from year to year may have earned money does not eliminate nor remove the proposition that every time it built a line into a new territory it went through exactly the same process I have outlined in my testimony.

Q. Mr. Connor, can you tell what the books show for the cost of development of the business of the Company?

A. No, sir; the books of the Company do not reflect items of cost of that sort.

Q. Has there ever been any interest on idle plant on the books of the Company, either as operating expenses or as a capital item?

A. No, sir; I don't believe that Lone Star Gas Company has ever set out an entry of that nature. I do know, however, Mr. Fitzhugh, that very recently a large natural gas pipe line company has done that very thing in connection with its capital account, and the method adopted has been approved by nationally recognized certified public accountants.

Q. Isn't the real reason your books show no amounts for such costs the fact that there was not any such costs incurred, Mr. Connor?

A. No; I don't think that is true, Mr. Fitzhugh. I don't [fol. 1636] think books kept as the Lone Star Gas Company's books have been kept would reflect items of cost of that nature.

Q. What was the per cent of idle plant at the end of 1909?

A. I don't know.

Q. What was it at the end of 1910?

A. I don't know; but I do know that during the successive years following 1909 that the business of the Company increased.

Q. Was there any idle plant as of the end of 1911?

A. I would say that there was.

Q. How much?

A. I don't know.

Q. Was there any at the end of 1912?

A. I would say that there was.

Q. What was the per cent of idle plant as of that date?

A. I don't know.

Q. Was there in 1913 any idle plant?

A. I would say that there was.

Q. Do you know the per cent of idle plant?

A. No; but it would be somewhat reflected by the business development from the standpoint of customer saturation and customer use saturation, which concurrently developed in the cities of Fort Worth and Dallas, because during the period of time you refer to Lone Star Gas Company was making deliveries into the cities of Dallas and Fort Worth [fol. 1637] through practically the same facilities that it had at the beginning of its public service operation.

Q. At just what year from 1913 down to the present time would you say there ceased to be idle plant, Mr. Connor?

A. You mean on what line?

Q. On any line?

A. Mr. Fitzhugh, that would be a matter which would have to be analyzed by the rate of sales on each and every individual line in the system, and I have only extended my study to include some of the large lines which had been laid in recent years.

Q. Mr. Connor, unless your company is at this moment serving every possible customer and delivering every cubic foot of gas it possibly can, doesn't it have some idle plant right now?

[fol. 1638] A. I think I explained some time ago, Mr. Fitzhugh, that there never was a time in the operating history of any public utility but what some proportionate part of its plant not only was not fully used but would not be fully used. It would be a very improvident attitude and a very dangerous attitude from the standpoint of rendition of adequate service for the management of Lone Star Gas Company to permit the building up of a loan on its system which would absorb the capacity of the system one hundred per cent, because the public interest and adequate service demands that a natural gas pipe line company always have some reserve capacity with which to meet extraordinary and unfor-seen demands, and in addition to that there is no telling at what time some very important part of the pipe line system may give way, and those accidents, which are unavoidable, usually take place at the time of maximum domestic demand. The people of a territory served by a company like Lone Star Gas Company become independent upon that company for heat in their homes and for their

comfort and health during the winter months, and the company can not afford to trim so close to the line as to have a plant which would just exactly fit the absolute demand on that service.

Q. Have you answered my question, Mr. Connor?

A. I think I have.

Q. Well, I will ask it over again. If you assume at the present time that your company does not have absolute saturation, serving every customer it possibly can and delivering every cubic foot of gas it possibly can, don't you [fol. 1639] at the present time have some idle plant?

A. You would have a plant which was not being used, but I would not designate it as contribution to a lack of normal one hundred per cent saturation and customer use.

Q. Well, what is your answer to the question?

A. There will always be a certain amount of line in any well managed property which would not be used for immediate needs, and to that extent there would be a plant which theoretically idle but which, I think, would be entirely useful in the public service.

Q. Well, what are you saying: "yes" or "no"?

A. I said three times that on a well designed and well maintained property there would always be some portion of it which would be idle theoretically.

Q. Well, is your answer "yes", then?

A. Yes.

Q. Now, then, isn't it a fact, Mr. Connor, that if you consider your company has a hard time getting started, with more idle plant during the years when they are just starting business, that you inevitably get a larger amount for going value through interest on idle plant?

A. Yes.

A. I think that any one who would make an estimate of [fol. 1640] this kind and would extend the period of business development beyond that which would be normal and speedy even for the type of business under consideration would be committing a very improper—would be making a very improper calculation.

Q. Even as you assume, as you have assumed, Mr. Connor, that at the time you start this construction most of the big cities served by the company would be having artificial gas, which, as you have said already, I believe, would be at higher rates than the natural gas rates, isn't it a fact that as

soon as you attach to those towns your success in those towns would be instantaneous?

A. Well, now, in that respect I have actually taken for the basis of my calculation the actual experience of such a community, and that is the City of Dallas and its metropolitan area, and have taken the rate of growth and development in the town. They had an artificial gas system and were selling artificial gas at higher rates than natural gas, considerably higher. I have taken the actual experience of that town, and then what have I done? I have reduced it from a twenty year period to a six year period, to be absolutely conservative; in other words, I have taken the experience of the City of Dallas and the actual attachment of its business with this artificial gas plant there and, instead of assuming that the business would be acquired over a period of twenty years, as was actually done, I have assumed that the company would get it in six years.

[fol. 1641] Q. I understand, but answer the question. If you assume that all these plants were artificial gas plants and your company attaches and brings in cheaper natural gas to serve some communities, isn't it sure that you will have plenty of customers in those communities instantly attached to your line and willing to pay a good rate for gas?

A. Well, now, Mr. Fitzhugh, the experience of Dallas shows that when that gas was introduced into Dallas there was only one meter for ten and a half inhabitants and for a year or more after that only one meter for every 6.4 inhabitants, and it was only after gas was introduced into Dallas for nearly twenty years that the ratio of meters to population got to the point that it now has. Now, that indicates to me that people do not jump right in and pick up the service, and the actual experience of towns which I have used in this estimate shows it takes three years to get that business from the standpoint of number of customers.

Q. Well, the number of customers per meter don't mean a thing—it is the return you get that matters, isn't it?

A. Well, if you can serve a community with the same facilities that has a hundred thousand people and you have twenty-five thousand domestic consumers in that community, you are going to receive more revenue than if there were twenty-five hundred customers.

Q. Mr. Connor, isn't it a historical fact that when the company attached in Fort Worth, Dallas, and other towns,

that they charged and received rates that adequately compensated them for every cent of investment they had made for pipe lines and other equipment?

A. I don't know whether it did or not.

Q. And doesn't the history of the company show that if you had any cost of building up business that you have been amply repaid not only through operating expenses but in other ways for that cost?

A. I don't know that I have any information that would justify me in reaching that conclusion.

Q. Have you made any investigation to find out whether or not rates in the past have been inadequate to repay your company any cost of building up business, if any such costs were incurred?

A. Mr. Fitzhugh, in making the reproduction cost estimate I gave no consideration to the operating experience of the company in the past, except in so far as I made such studies as would provide me definite information relative to the specific things to which I have testified. It does not seem to me that whether the company made money or lost money in the past has anything to do with what it would cost to reproduce this property as of this time, and so I did not give any consideration to those accounting records.

Q. You are aware of the fact, are you not, Mr. Connor, that Mr. Huley has already testified in this case that if there were any costs of developing business that they have been charged as operating expenses in the past?

A. I don't know, Mr. Fitzhugh, that I quite understand what costs you are referring to. Now, if Mr. Huley means [fol. 1643] new business expense and soliciting expense and such expenses as that, no doubt all of those items have been included in the operating expenses of the company, and I think probably they should be included in the operating expenses, but there is no effort on, my part in this exhibit here to capitalize any such expenses. Now, if you mean costs which have accrued to Lone Star Gas Company by reason of the fact that its pipe lines have not been used to their capacity, then I do not believe there is any reflection of that sort of expense or cost on the books of the company.

Q. Did it make any difference to you in making your estimate, Mr. Connor, that the costs commonly known as going value costs have been charged on the books of the com-

pany in the past as operating expenses and are now still being charged as such?

A. No, because I made no attempt to capitalize the items which are treated as operating expenses, and I do not understand, Mr. Fitzhugh, just what you mean by "going value costs".

Q. I mean as you detail them in here.

A. No. I have detailed costs of developing the business of Lone Star Gas Company. Going value of this company is something which exists by reason of a large number of factors. I have merely made an estimate in conformity with the methods hitherto used in the appraisal.

Q. The way you have arrived at your final value, it would not have been necessary for you to have seen the books of the company, at all, would it?

A. Yes.

[fol. 1644] Q. What for? For the purpose of finding industrial revenues?

A. I went to the books of the company to get the proportionate part of industrial sales and domestic sales which would be secured in each of the groups of towns which I have estimated would be attached to the system at various dates. I went to the records not only of Lone Star Gas Company but of each and every distributing company of Lone Star Gas Company to find the actual rate in each of the plants.

Q. You didn't go to the books of the company to find the actual amount of interest return as shown by the books, did you?

A. No.

Q. Or the exact amount of depreciation or idle plant as shown by the books of the company?

A. No.

Q. Or the taxes on idle plant as shown by the books of the company?

A. No; that is correct.

Q. Or any personnel cost as shown by the books of the company?

A. That is correct.

Q. Now, your taxes on idle plant were figured about the same way as taxes during construction, weren't they?

A. That is correct. No; they were applied wholly to the property which would be in operation but not active during the period of business development. The proportionate

amount of the total taxes paid by Lone Star Gas Company ascribable to that part of the total reproduction cost has been set up as the item of taxes during the development period.

[fol. 1645] Q. Of the amount you show on page 71, being \$3,111,610.00, for depreciation on idle plant, what would be the actual amount for replacements during that time?

A. They would be nominal.

Q. About how much in dollars and cents?

A. I don't know.

Q. Would it be as much as fifty thousand dollars' worth?

A. I could not tell you, Mr. Fitzhugh.

Q. You could not come anywhere close to an estimate on it?

A. No, sir. But that would not remove the necessity of setting up a reserve accrual.

[fol. 1646] Q. On page 101, where you show the depreciation rate by years, you use a rate of three per cent in the first, and through the other years three and one-half, four, and four and one-half. Why did you use a different rate for each year?

A. Because I believe that property of a natural gas—that in the natural gas business wherein the business itself would be small during the early years, you need not set up the same reserve accrual which would be required in the future; and, furthermore, the estimated reserve accrual during those years is somewhat less than that which I would suggest for a natural gas pipe line company; and it was inserted in the estimate prior to the time that I had made my final determination of what actual reserve accruals Lone Star Gas Company should set up.

Q. On page 132, near the bottom of the page, you say: "During the year 1931, Lone Star Gas Company compressed 73.8 per cent of the total gas delivered at an average cost of 1.74 cents per M. cubic feet compressed (operation only)." Where did you get that 1.74 cents per thousand cubic feet?

A. That was taken directly from the operating records of the Compressor Department of Lone Star Gas Company. And, in that connection, on page 133 there appears a typographical error which should be corrected in the exhibit, and that is that a decimal point should be placed in front of the figure 87 appearing at the top of page 133.

Q. Does this cost apply only to domestic gas?

A. No, that is the cost of all gas compressed, Mr. Fitzhugh. Operation only; no fixed charges.

Q. That includes all of the labor, does it?

A. And that includes all of the cost of compression—the fuel and the labor and the repairs not charged to reserve account.

Q. You would still have this cost for compression if you eliminated natural gas, would you not?

A. Well, that would be impossible for me to tell you, Mr. Fitzhugh, what per cent of it would be eliminated. I don't know.

Q. Well, if you took out the industrial gas, you would still have the same compression costs, wouldn't you, for the residue?

[fol. 1648] A. No, the costs of compression, if the residue gas—the remaining amount of gas were all compressed, would be much larger, because the cost of compression per M. C. F., while in proportion to the amount of gas compressed, declines per M. C. F. as the volume of gas compressed increases. This is the over-all cost of compressing gas in the Lone Star Gas Company system for the year which I have indicated. Now, I have attempted no segregation of industrial and domestic gas compression because I don't think anybody could do that, but I have assumed that it would cost less, that there would be less industrial gas compressed than there would be domestic gas compressed, for the reason that domestic gas—large volumes of domestic gas move over the peak load periods, while industrial gas is sold more or less uniformly throughout the year; not altogether so, but to a greater extent than the delivery of domestic gas.

Q. Now, you say this figure is made up of all the fuel and labor costs; everything except fixed charges, I believe you said?

A. That is correct.

Q. Now, you would still require the same amount of labor if you eliminated the industrial rate, wouldn't you?

A. At a few compressor stations you have to keep a certain number of men there, yes, irrespective of the volume of gas you compress.

Q. The only difference in the case of compression, after eliminating the industrial load would be the cost of the fuel, wouldn't it?

A. Yes, but Mr. Fitzhugh, you can't pick out and decide what industrial gas is compressed and what domestic gas is compressed. For instance, Lone Star Gas Company during that year received a very large proportionate part of its base load requirements—and by that I mean the amount of gas which it delivered every day through the year—from casinghead gasoline plants in West Texas. Every cubic foot of that gas was compressed and the very large proportion of it was sold for industrial purposes. I think the arrangement that I have made here really relieves the industrial gas of a certain element of cost which might very properly be ascribed to it.

Q. How much of this 1.74 cents per thousand cubic feet is made up of the fuel cost?

A. I don't know.

Q. Can you say approximately how much?

A. No, I can not. Fuel costs, of course, are a rather sizable expense in connection with the compression of gas. [fol. 1650] Q. Well, would you say it would amount to as much as a half a cent?

A. I couldn't tell you, Mr. Fitzhugh; I haven't the figures available.

Q. All right, sir. The last section of your appraisal is Working Capital, which you show in the amount of \$1,701,600.00. In your summary you have an item of Incomplete Construction, \$100,000.00. If a rate hearing were to be had at some subsequent time, this same Incomplete Construction in the amount of \$100,000.00, as shown on page 141, would have Interest during Construction figured on it, wouldn't it?

A. No, sir.

Q. How do you know it would not. That would then be property of the company, wouldn't it?

A. Oh, you mean after it has been completed?

Q. Yes, sir.

A. I see.

Q. And we were having a hearing at some future date.

A. I would take the entire plant just as I found it and estimate what time would be required to construct it, and proceed just as I have done.

Q. In other words, the inclusion of this amount allows you at this time to earn a rate of return on an amount which at some future time you expect to calculate Interest [fol. 1651] during Construction on?

A. Mr. Fitzhugh, I don't believe that I follow your question.

Q. Suppose that you had not allowed—this is going in the rate base, isn't it—this Incomplete Construction in the amount of \$100,000.00?

A. That is correct; and it should go in.

Q. And the Company is going to be allowed in its rates to earn a rate of return on that, isn't it?

A. That is correct.

Q. Now, if that happened in all incomplete construction, there wouldn't be any sense in charging interest during construction on it, would there,—if incompleted property was allowed to earn its return there wouldn't be any loss on the capital tied up during incomplete construction?

A. Well, the incomplete construction on the property, so far as it is concerned, is simply like materials and supplies on hand, and it is money which it has advanced on things that are not in service at the date of the inquiry. Now, if incomplete construction constituted some tremendous proportion of a valuation or a reproduction cost estimate, your point might be very well taken. If you were to include immediately in a rate base some tremendous proportion of a piece of property which would be out of proportion to that property which was being estimated upon the reproduction cost basis, I think your point would be exceedingly well taken; but in the case of a small current expenditure for construction in progress, I think that the proper way to handle it is as a part of working capital.

Q. Has your Company in the past, Mr. Connor, been obtaining a return on incomplete construction as a part of working capital?

A. I would say that that would depend upon the revenues that the company happened to be receiving at any given time and the proportionate part of the total system represented by incomplete construction. I don't imagine that the Company got a return on incomplete construction during the years 1927, 1929, or 1930,—no, absolutely not.

Q. How did you find the amount of gas in the system, Mr. Connor?

A. Why, I have a curve.

Q. Is that actual measurement, I mean.

A. That is the actual measurement of the diameter of the pipe in the system reduced to a cubic foot basis at 200

pounds pressure, and reduced to—well, I haven't a note here on just exactly what pressure base was finally determined—I have it in my notes; but it was just simply a [fol. 1653] mathematical calculation, Mr. Fitzhugh. And the amount of gas should be set out as 156,425 M cubic feet. In my copy the M—capital M—was omitted. I suggested the change to Mr. Freese some time ago. That same change should be made in the copy in the record. By that I mean 156,425 thousands of cubic feet.

(NOTE.—The correction above suggested was subsequently made in the exhibit introduced in evidence herein.)

Q. You figured this gas was worth ten cents per thousand cubic feet, did you not?

A. That is just a rough estimate of what that gas would be worth, yes.

Q. That is purely an arbitrary figure; that was not calculated in any way?

A. No; I knew that the over-all cost of gas was around six cents, and that the compression was around 1.75 cents, and I just wanted to get an item of cost applicable to operating costs only. I don't know that that would cover it, by any means, because some of the gas cost ten cents a thousand at the well.

Q. Did you some time during your examination, Mr. Connor, testify that the Petrolia gas is about a 750 b. t. u. gas? [fols. 1654-1665] A. That is correct.

Q. Has that always been true of that Petrolia gas?

A. I think it has. Mr. Biddison is here and he is more familiar with that gas in its early period of the Company's operations than I am, and he can, I am sure, give you that information.

Q. Well, that gas has a 750 b. t. u.—

A. It may not be that much, Mr. Fitzhugh.

Q. —content today, doesn't it?

A. I am not sure; I think that is just about what it is.

Q. Yes, sir.

Redirect examination.

Questions by Mr. Griffith:

• • • • •

[fols. 1666-1676] Recross-examination.

Questions by Mr. Fitzhugh:

* * * * *

[fols. 1677-1681] P. M. BIDDISON, recalled by defendant, testified as follows:

Direct examination.

Questions by Mr. Griffith:

* * * * *

[fol. 1682] Q. Mr. Biddison, without going into the detail in reference to each well, I will ask you if you have the [fols. 1683-1684] detail on each of the well lines which you think should properly be excluded from your inventory and appraisal?

A. I do.

Q. And can you give the total for the Fox Field and for the other fields?

A. Yes, sir.

Q. And then if counsel for the State so desire, they may inquire about individual lines?

A. Yes, sir, for the Fox Field the total correction is \$1,351.74; for the West Texas Field the total correction is \$41,822.66; the total for all fields is \$52,473.00.

Q. And you would accept a correction to your inventory and appraisal, Exhibit 28, in those amounts?

A. Yes, sir.

* * * * *

[fol. 1685] Q. Mr. Biddison, would you say that you had a thorough familiarity with the public service plant and property of the Lone Star Gas Company in its respective locations?

A. Well, I am quite familiar with it.

Q. Over the period of the last several years have you had occasion to visit, inspect and observe practically all of the physical property of the Company, wherever located in the States of Oklahoma and Texas?

A. I have.

Q. Have you made any examination and observation of the property on the ground as a result of visual inspection, for the purpose of determining the observed or ac-

crued depreciation or the per cent condition of new which you would attribute to the respective items of property?

A. I have.

Q. At what time did you make those inspections and observations?

A. A number of those inspections were made during the summer of 1932, and a number of them during the summer of 1933.

Q. Was that for the purpose of ascertaining the accrued or observed depreciation or per cent condition of the property as of the date of your appraisal?

A. It was.

Q. And have you embodied your observations and determinations in a compilation in form to be presented as an exhibit in this case?

A. I have.

Q. Mr. Biddison, is this the compilation and report to which you refer,—it being styled on the title cover “Lone Star Gas Company—Report on Condition of Property as of January 1st, 1933. By P. McDonald Biddison, Consulting Engineer”?

A. It is.

Q. Bearing in the lower right-hand corner the designation “Dallas, Texas. August 30, 1933”?

A. That is correct.

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Examination by Mr. Stout:

Q. Mr. Biddison, does this exhibit show any separation as between property in Oklahoma and property in Texas?

A. No, sir, it does not.

Q. What ever it is, it is all a combined system—all together.

A. It treats the property as a whole, yes, sir.

Q. What is it? I say what do you call it?

[fol. 1687] A. What do I call the report?

Q. Yes, sir.

A. Lone Star Gas Company—Report on Condition of Property as of January 1, 1933, by P. McDonald Biddison, Consulting Engineer.

Q. In your language or in United States language what would you designate it as being—is it a depletion or something like that?

A. No, a report on the condition of the property.

Mr. Stout: We make the same objection we have heretofore made,—that it shows no segregation between Texas property and Oklahoma property.

The Court: All right; the objection is overruled.

Mr. Stout: Note an exception.

(Thereupon the document above referred to was marked as Defendant's Exhibit No. 37.)

[fol. 1688] By Mr. Griffith:

Q. In connection with the objection which has been made, that it makes no segregation as between Oklahoma and Texas property, Mr. Biddison, I will ask you if it does make a segregation to the extent that your observations in connection with property in each state are separately identified and may be identified by anyone going through the report?

A. That is correct.

Q. In other words, throughout the report, you have given station pipe line designation or town location in reference to the inspection made?

A. Yes, the location given is sufficiently definite enough that a classification by states could be made from it. I have not attempted to do so.

Q. In other words, it would be just a matter of mathematical calculation, insofar as the determination of the per cent condition of property located in Oklahoma was concerned, and also so far as the Texas property was concerned?

A. That is right. Simply a re-arrangement of the data.

Q. Now Mr. Biddison, please relate to the jury just what was the general nature of the work that you did in connection with the compilation of Exhibit 37.

A. The general nature of the work was to tour the territory covered by the Lone Star Gas Company's system and to inspect the items of equipment and make notations of the observations. With regard to the inspection of pipe lines, I had the operating forces of the company to dig holes at [fol. 1689] selected locations, of sufficient size that the pipe could be readily seen and inspected, and at such locations I inspected the pipe to determine the condition of the protective coating and to determine the condition of the pipe

itself, and from the observations on the protective coating and on the pipe itself, I determined an over-all condition of the complete installation of pipe. Now, with regard to these observations in the section of this report devoted to transmission system equipment, for example, or transmission line equipment beginning on page 149 will be set out the details of the observations which I made. Now, with respect to compressing stations, I did not have with me at the time of these inspections any inventory of equipment whatever, and I made notations as to the condition of the principal elements of value in a compressor station job, and later when the inventory became available to me with the estimated cost of reproduction new, I set down opposite these items constituting compressor stations the per cent condition in which I observed that property to be, and multiplying that figure of reproduction cost new by the figure of condition, I obtained what I have called the present value of that property. For example, an item of property which is estimated to cost \$100 to reproduce new today, if I found it in a condition of 90 per cent, I would multiply that \$100 by 90 per cent and obtain a present value figure of \$90. Now, with respect to measuring stations, at measuring stations I would make notations of my judgment of the condition of the structure or of the building. And then a separate [fol. 1690] notation of my observation of the condition of the equipment in that station, and all these observations have been applied to the cost of reproduction new, as shown in Exhibit 28, which is the valuation, to obtain the final figures in this Exhibit 37 of what is therein styled present value.

Q. The reproduction cost new of the plant, property and business of the company as shown by the summary in Volume 1 of Exhibit 28 of the Defendant, is the sum of \$73,983,405.57?

A. That is correct.

Q. And you have carried that figure over to page 1 of Exhibit 37 under the column headed Reproduction Cost New?

A. That is correct.

Q. The next column, styled Percent Condition, is the result of your determination of the observed or accrued depreciation as determined by you in connection with the observations of the property, which you have made, and

inspections which you have made, and which observations and inspections are set forth in detail in Exhibit 37?

A. That is correct, and all the figures of cost of reproduction new are taken from Exhibit 28, which Exhibit 28 is the valuation or the estimate of the cost of reproduction new, and brought forward into this Exhibit 37.

Q. It would appear from page 1 of Defendant's Exhibit 37 that you found the property to be in a condition of 92.93 per cent, in so far as the physical property was concerned?

A. That is correct?

Q. And that over-all you determined the per cent condition of new of the property as a whole to be 94.26 per cent?

A. That is, of the property and business, yes.

Q. And thereby you arrived at a present value of \$69,738,021.16.

A. That is correct.

Q. The column headed Present Value on page 1 of Exhibit 37 might well have been styled reproduction cost new less observed depreciation, might it not Mr. Biddison?

A. It might well have so been styled; it represents that specifically.

Q. What have you set forth on pages 2, 3 and 4 of Exhibit 37?

A. On pages 2, 3 and 4 are set out by groups of property the derivation of the figure of 92.93 per cent and the figure of \$55,809,205.16 present value, shown on page 1. On pages 2 and 3, production system property is broken down into subdivisions of that property. Gathering system property is similarly broken down into its main subdivisions; transmission system property is broken down into its main subdivisions; compressing system property is broken down into its main subdivisions and general property into its main subdivisions.

Q. Now what is the first item of physical property of the company for which you made a determination in respect of its per cent condition?

A. Production system property.

Q. And is the first item gas well equipment?

A. The first item on which a determination of condition from observations of the equipment was made, is gas wells.

Q. Now, it is noted that on the fee wells, and I suppose [fol. 1692] by that you mean the gas wells owned by the

company, you determined them to be in 100 per cent condition of new. Hasn't there been any deterioration or depreciation of the gas well equipment in those wells, Mr. Biddison?

A. Yes, there had been.

Q. Why, then, did you apply 100 per cent as the condition in which you found those wells?

A. The method of evaluation of leases and wells —

Q. That is, developed gas reserves?

A. Developed gas reserves and gas wells as used by Mr. Hulcy, and I think he has himself explained this, is a method which produced a present value figure for the total. If we take the sum of \$2,681,689.00 for leaseholds developed and the sum of \$3,908,424.15 for gas wells, that sum substantially then represents the present value of that property as determined by Mr. Hulcy. Now, having determined the overall present value, he arrived at the value of the leaseholds developed by deducting therefrom the estimated reproduction cost new of the wells. If, instead of so doing, he had used a depreciated figure on gas wells, and deducted that from his total value for leases and wells, he would have had exactly the same total figure here, but a larger amount of the value would have been in the leaseholds, and a somewhat smaller value in the gas wells, without in any way affecting the total amount of money involved as a present value figure.

Q. Well, summarizing your testimony in that connection, Mr. Biddison, to any extent that Mr. Hulcy would have [fol. 1693] considered the depreciated value of gas well equipment in connection with developed gas reserves, would he to the extent of such depreciation have increased his value of gas reserves?

A. That is precisely the idea I was trying to convey.

Q. In connection with other-owned wells, appearing on page 6 of Defendant's Exhibit 37, it would appear that you did depreciate that equipment?

A. I did. I estimate that that equipment is in a condition of not less than 85 per cent, as compared to new equipment. I have inspected a great deal of that equipment, and —

[fol. 1694] Q. Mr. Biddison, you stated that you made numerous observations and inspections of the equipment

located on what you style on page 6, Exhibit 37, "Other Owned Wells"?

A. That is correct.

Q. And as a result of those observations and inspections, you determined that class of equipment had suffered an observed depreciation of 15 per cent?

A. This figure of 85 per cent condition is not actually the result of observation, as the observations on that equipment show it all to be in very excellent condition; but I adopted 85 as being a figure somewhat lower than the actual observations I made on that kind of equipment.

Q. Turn next to page 8. What have you summarized on page 8, of Defendant's Exhibit 37?

A. Other Production System Structures. Of these structures I actually inspected the ones opposite which are set down the figures of per cent condition, and out of a total of \$9,450.29 of the Reproduction Cost New figures for these items, I observed \$5,453.13 worth of those items, and on the items observed I had an average, or weighted mean condition of 82.73 per cent; so to the total cost of reproduction cost new I applied not the 82.73 per cent, but a flat 82 per cent.

Q. Do you believe that you saw a representative number of those structures, so as to enable you to testify as to their average condition?

[fol.1695] A. Yes; I saw considerably over half of the values involved.

Q. And made minute inspections of more than half of the structures in money value involved in the property account?

A. Yes, sir.

Q. On page 10 of your Exhibit 37 appears a summary of Other Production System Equipment, consisting of Drill, Repair and Clean Out Tools. Please state how you arrived at your figure of 75 per cent Condition for this class of condition?

A. That figure is not the result of a mathematical computation, but is the result of my observations of this equipment at various locations. I believe it to be in a condition equal to seventy-five per cent of the value of new equipment.

Q. I will ask you if that general class of equipment is scattered in the several fields in which the Company operates?

A. It is, and to properly weigh out observations of scattered items that way would be a long, tedious task, without any better result being arrived at than the short-cut method I used.

Q. Turn to page 13, of Exhibit 37. Mr. Biddison, why didn't you depreciate gathering system rights of way?

A. Because they are not depreciated property; their condition does not change.

[fol. 1696] Q. In other words, is a right of way grant as good today as it was on the day it was secured some ten years ago, say?

A. It is.

Q. You mean there is no necessity for setting up a reserve accrual in respect of such gathering system rights of way?

A. I don't mean that at all. It is necessary to set up a reserve accrual for many items whose condition does not change throughout their life. Their life may expire suddenly, but their condition be one hundred per cent up to the moment they are wiped out. It is necessary for an owner of buildings to accrue for the possibility of sudden destruction of a building, although the condition of that building may be one hundred per cent at the time it is destroyed.

Q. Are these gathering system rights of way given in perpetuity to the grantee, or the Lone Star Gas Company?

A. Not necessarily in perpetuity; but as long as the Company desires to use them for the purpose for which the grant is given.

Q. That is, so long as the Company wants to maintain its pipe lines in that location, it has the right under these right of way grants?

A. That is correct.

Q. Turn next to pages 15 and 16. What have you summarized on those pages?

[fol. 1697] A. I have set out in summary form the results of my observations on Field Measuring Station Structures; and those are further detailed on succeeding pages 17 to 19 inclusive.

Q. In other words, in the summary on pages 15 and 16 of Defendant's Exhibit 37, have you summarized the observations which you made on these Field Measuring Station Structures, with respect to the Chicasha Field, the Duncan

Field, and all of the other fields where in the Company operates?

A. That is correct. I want to point out that in determining, on pages 17, 18, and 19, the average condition for these structures, the determinations result for each field in some cases in a fractional number; such as on the Duncan Field, the Per Cent Condition determined is $77\frac{1}{2}$ per cent, but in applying that to the reproduction cost new of those structures on page 15, I have dropped the fraction and used the even 77 per cent.

Q. Mr. Biddison, please refer to page 17, in connection with the Duncan Field, Clarkson No. 4 Well Measuring Station Structure,—what appears in the first column?

A. The number of the meter in that station.

Q. In other words, the meter in that station bears number 232?

A. That is correct.

Q. What is the next column?

A. That is the serial number of my observation.

[fol. 1698] Q. Number 335?

A. That is correct.

Q. And what appears in the following column?

A. The condition in per cent of this structure with respect to what a new structure would be.

Q. Of similar size and design and construction?

A. The identical size and design and construction. In other words, a condition of 70 per cent indicates that, in my judgment, 30 per cent of the deterioration which would render this building valueless has occurred.

Q. And that it is worth 70 per cent of its reproduction cost new?

A. That is correct.

Q. And in a similar manner, following on pages 17, 18, and 19, did you detail in this exhibit the field measuring station structures examined and observed and inspected in connection with each of the several fields, giving the meter number, your serial observation number, and the per cent condition that you found for that particular structure?

A. I did.

Q. In your judgment, did you examine and observe and inspect a sufficient or representative number of these stations so as to give you a representative picture of the condition in which all of the measuring station structures could be determined to exist?

[fol. 1699] A. I did.

Q. And based upon those observations which you made, did you determine that the over all per cent for the Gas Purchase Stations was 86 per cent of new, and for the total field measuring station structures 86.78 per cent of new?

A. I did.

Q. And that is set forth on page 16 of this exhibit?

A. That is correct.

Q. Mr. Biddison, what is the next class of property which you examined and inspected for the purpose of arriving at the observed depreciation?

A. Field Measuring Station Equipment. This is the equipment located at the same points as the field measuring station structures previously explained.

Q. Now, on pages 21 and 22 of Defendant's Exhibit 37, have you summarized your observations of this field measuring station equipment for the several fields?

A. I have; and as in the case of those structures, in carrying forward to pages 21 and 22 the averages of the observations, I have dropped decimals and taken the even figures of percentages.

Q. On pages 23, 24, and 25, do you give the meter number, the observation number, and the per cent condition which you found in respect of each of the examinations and inspections which you made?

[fol. 1700] A. I do.

Q. And do you believe that in the case of this equipment you examined and inspected and observed an amount of the equipment which would give you a representative picture of the per cent condition of new of the entire classification of property which is embodied in Defendant's Exhibit 28?

A. I do.

Q. Refer please to page 28. What do you summarize on that page?

A. Field line equipment.

Q. And in what per cent condition of new do you find field line equipment to be as a result of your inspection and observation?

A. 88.78 per cent.

Q. And was that the per cent of reproduction cost new that you took in order to determine present value?

A. It is.

Q. On the succeeding pages, 29 to 39, inclusive, have you detailed the inspections which you made in connection with the field line equipment?

A. I have.

Q. Please give a brief explanation of what you have set forth in your exhibit in connection with the inspections of field line equipment.

A. I have set forth in the left-hand column under the heading "Line", the name of this field line, and generally, [fol. 1701] but not always, the name of the well to which the line is connected. In the second column, under "Location" I have set forth the approximate point at which the inspection was made. In the next column, under "Remarks", I have described generally the kind of soil at this location, and described generally the condition in which the line was found to be at the time of the inspection. In the next column, under "Observation", I have shown the serial number of my inspection. There are three subdivisions of the heading "Condition". The first subdivision headed "Paint" represents the condition in which I found the protective coating on the pipe, and on page 29, on the first item, Line W. T. 14, the paint was of no value.

Q. That is, the paint had deteriorated to the point to where no value could be assigned to it?

A. That is correct. In the second column under "Condition", I have shown the condition of the pipe itself; and in the first case the pipe had suffered very little damage. It was, in my judgment, of a value of 98 per cent of that of new pipe. Now, in this particular case, the value of the painting is something in the neighborhood of three per cent of the total cost of the job. Therefore, I deducted from 98, an allowance of three per cent for that painting, which was of no value any more, to obtain in the column "Overall" the condition of 95 as shown for the "Overall" condition of this installation of pipe in this line.

[fol. 1702] Q. Wherever you found that the painting on the pipe had no value whatsoever through your determination of per cent condition in connection with the field line equipment, and also the transmission line equipment, did you make what you thought was a proper deduction for the loss in value caused by deterioration of the pipe?

A. I did.

Q. Now, in a manner similar to that which you have described in connection with the inspection which you made

of West Texas Line 14 at the measuring station, did you make similar observations in respect of all of the other field line equipment set forth in detail at pages 29 to 39 inclusive?

A. I did. I would like to point out that on page 32, for the West Texas Field, the average of 45 observations on these field lines was 92.33 per cent; and I have applied on page 28 not 92.33, but a flat figure of 92 per cent condition for these lines. I would like to point out further that on some of these lines, upon inspection it is difficult to determine whether or not those lines were originally painted when they were installed, and in making the inspection I assumed that they were painted. If the paint does not show now, it is shown in this report as being 0 condition, and the reduction in value is greater in the case of lines which were not actually painted than would otherwise have been found in the determination of the overall condition.

[fol. 1703] Q. Now, in a similar manner as for the West Texas field did you determine the per cent condition of the pipe as the result of your inspection for the several fields and apply those percentages as shown in the summary on page 28 of Exhibit 37?

A. I did, and thereby determined that the average per cent condition for field lines was 88.78 per cent, as shown on page 28.

Q. That is, for all the gas fields wherein the company operates?

A. That is correct.

Q. Please turn to page 42. What have you summarized on that page?

A. Transmission System Measuring Station Land. These are the parcels of real estate owned by the Lone Star Gas Company on which are located measuring stations in connection with the transmission system property. The first column on the left, headed "System", indicates the pipe line system; the second column, headed "Land", indicates the reproduction cost new of the land itself. Under the heading "Improvements" there are three columns. The first one, headed "New", represents the reproduction cost new of the improvements; the next column, headed "Per Cent Condition", represents my determination of the condition of the improvements; the next column, headed "Depreciation", represents the application of per cent condition to the reproduction cost new of these improvements; and the column on the right, headed "Total Present Value",

[fol. 1704] is the sum of the column headed "Land" and the column showing the depreciated value of the improvements. So in this case the land is carried undepreciated, but the improvements are carried at a depreciated figure over into the column styled "Present Value".

Q. It may sound absurd, Mr. Biddison, but why did you not depreciate land?

A. Land is not of a depreciable nature. Its condition does not change. It may vary in value, but for the purposes such as these its condition does not change.

Q. Now, Mr. Biddison, commencing at page 43 and going through page 58, have you set forth by systems—that is A System, B System, C System, and so forth, the examinations and inspections which you made in connection with the land and improvements on the Transmission System Measuring Station land sites in connection with each of the pipe line systems of the company?

A. I have.

Q. And the description which you have just given of your method as applied to the summary on page 42 is equally applicable by way of explanation of the method which you followed in the determination of per cent condition of the measuring station land and improvements of the several pipe line systems?

A. It is. I think there is one more point possibly which should be explained. I did not inspect myself at every one of these sites, but with respect to each line system I show locations at which I did make inspections, the present value [fol. 1705] and average condition and reproduction cost new of the improvements which I actually inspected and then applied that condition to the total of the improvements.

Q. Refer, please, to page 60 of Defendant's Exhibit 37. What appears on that page?

A. Transmission System Measuring Station Leaseholds. This is the summary.

Q. Now, what was your general method of determining the per cent condition deduction for reserve depreciation in respect of the Transmission System Measuring Station Leaseholds?

A. Identically the same as I have just explained in regard to Transmission System Measuring Station Land.

Q. And does the same explanation hold good as to the setting forth of the details of your inspections commencing at page 61 and ending on page 72 of the exhibit?

A. It does.

Q. Refer, please, to pages 74 and 75 of the exhibit. What have you summarized on that page?

A. Other Transmission System Land. This land is used for warehouse sites, line-walkers' cottages, gate valve pits, and other miscellaneous uses in connection with the Transmission System.

Q. Your determination of the per cent condition of the improvements on this land was 84.43 per cent?

A. That is correct. Out of total improvements estimated to cost \$12,353.14 to reproduce new, I saw and inspected \$10,029.06 of that value.

[fol. 1706] Q. You believe again that that was an amount which was sufficiently representative of the entire classification of property to enable you to express an opinion as to the whole classification of property?

A. Yes.

Q. Refer, please, to page 77. How did you arrive at your determined per cent condition of Other Transmission System Leaseholds?

A. In the same manner as for Other Transmission System Land. Those tracts are used for the same purpose as Other Transmission System Land, but are leaseholds and not fee ownership.

Q. Mr. Biddison, refer, please, to page 79 of Defendant's Exhibit 37. It is noted on that page that you do not depreciate Transmission System Rights of Way?

A. That is correct.

Q. In other words, you find them to be in one hundred per cent condition new?

A. Yes, sir. These rights are in identically the same condition today as the day the rights were obtained; they do not depreciate.

Q. They are not for a specified term of years?

A. No; these grants run for as long as the terms are used for the purpose for which the grant is given; they are indeterminate.

Q. The fact that you have not depreciated these rights of way, is that the equivalent of saying that no manner of depreciation or amortization accrued should be set up covering these rights of way?

A. No, it is not. On the contrary, there must be accrued to reserve account an amount to retire these values when

the wells located on these lands are retired, but the value of the grant does not change during that period.

Q. Mr. Biddison, refer, please, to page 81 of Exhibit 37, and state what you have summarized on that page.

A. On this page is summarized Transmission System Measuring Station Structures, the first column being reproduction cost new as taken from Exhibit 28, the next column of figures being the average per cent condition determined for each line system, and the right hand column representing reproduction cost new less accrued depreciation, but being here styled "Present Value". The details for the per cent condition for the structures on each line system are set forth in succeeding pages 82 to 104. Now, on page 82 is set up the detail for Transmission System Measuring Station Structures of "A" System. "A" System being that portion of the company's pipe line originating in Wheeler County near Shamrock and extending down to the Petrolia station in Clay County near Wichita Falls. The first left hand column shows the line or line subdivision on which the structure is located. The next column gives the geographic description of the location. The next column, headed "Per Cent Ownership", shows the percentage of ownership in the structure of the Lone Star Gas Company. This was explained previously in regard to the same structures with respect to Exhibit 28, that [fol. 1708] the Lone Star Gas Company has a joint ownership in some of these structures with the distributing company to whom gas is measured at the respective points. In the column headed "Reproduction Cost New" is shown the reproduction cost new of the proportion of the building owned by the Lone Star Gas Company. In the column headed "Per cent Condition" is shown the per cent determined by me by observation of the respective structures. In the column headed "Present Value" is shown the result of the application of the per cent condition to the reproduction cost new figure; so that the present value figure is a determination of the reproduction cost new less accrued depreciation.

Q. Mr. Biddison, in a manner similar to the manner in which you have described your development of the per cent condition of the structures on the "A" System, did you determine the depreciation and per cent condition of all the other pipe line systems of the company?

A. I did.

Q. And the results of your determinations as set forth commencing at page 82 and carried through page 104 are carried forward to the summary on page 81 of the exhibit?

A. That is correct.

Q. And you determined that the per cent condition of the structures over all was 94.71 per cent of new?

A. That is correct.

Q. Refer, please, to page 106. What have you summarized on that page?

[fol. 1709] A. On this page have been summarized determinations of per cent condition and present value of Other Transmission System Structures. These are structures in connection with the Transmission System other than Measuring Station Structures; they consist of cottages, warehouses, items of that sort, for use in connection with the Transmission System.

Q. Commencing at page 107 and going through page 121, have you set forth the details of your inspection and examination of the structures located on the various pipe line systems of the country?

A. I have.

Q. The pipe line systems bear letter or number designations?

A. Yes, sir.

Q. On page 106 you have summarized the findings which are set forth in detail commencing at page 107 and ending on page 120?

A. That is correct.

Q. You found a lower per cent condition for this class of structures than for the preceding class of structures?

A. I did.

Q. What was the condition per cent determined in connection with this class of structures?

A. 83.76 per cent.

Q. Now, as you previously stated, these structures consist of miscellaneous items, such as cottages, garages, warehouses, storm cellars, tool platforms, auto wash racks, pipe racks, work shops, and other miscellaneous items?

[fol. 1710] A. Chicken houses, and line-walkers' houses.

Q. All structures which are used or useful in connection with the company's operations?

A. Yes, sir.

Q. Refer, please, to page 122 of Exhibit 37. What have you summarized on that page?

A. Transmission System Measuring Station Equipment.

Q. Commencing at page 123 and ending on page 144, have you set forth in detail by letter or number the pipe line system and the observations which you made in connection with this Transmission System Measuring Station Equipment?

A. I have. Now, I have not inspected every piece of this equipment. For example, with respect to the "A" System shown on page 123, reproduction cost new is \$23,545.44. Of this, I actually inspected items which total in reproduction cost new \$13,222.35, and on that equipment found an average condition of 97.97 per cent. I applied that condition to the total reproduction cost new of \$23,545.44 to find the present value shown on page 123, of \$23,067.47. It may be noted that in this class of equipment there is little variation in the condition found as between various locations.

Q. Is that equipment usually kept in exceedingly good condition and in a high state of maintenance and repair?

A. Yes. More care is given to the maintenance of this equipment in good condition than any other class of equipment which the company owns.

Q. Why is that true, Mr. Biddison?

[fol. 1711] A. Because this equipment is equivalent to the company's cash register; it is what measures their product, as it is being delivered for sale.

Q. Now, in a manner similar to the manner which you have described for the making of your inspection in connection with the "A" System of the company, did you make your observations and inspections to arrive at your conclusions as to the per cent condition covering the "B" pipe line system and other lettered and numbered systems of the company?

A. I did.

Q. And those observations are summarized by you and carried forward to page 122, covering the entire pipe line system of the company?

A. That is correct; and on that page I have determined that the per cent condition of this equipment over all is 97.16 per cent.

Q. Mr. Biddison, what is the largest item of physical property found in Defendant's Exhibit 28?

A. The largest group of physical property is Transmission System Line Equipment.

Q. On page 146 of Defendant's Exhibit 37 have you summarized your findings in respect of the per cent condition of Transmission Line Equipment?

A. I have, and found there as an over-all average for this equipment a condition of 92.28 per cent.

Q. An examination of page 146 of Defendant's Exhibit [fol. 1712] 37 would disclose that there is a wide variation in the per cent condition and observed depreciation which you found and determined as the result of your inspection of the various pipe line systems?

A. That is correct.

Q. And if we refer to pages 147 to 174, inclusive, do those pages set forth in detail the result of your numerous inspections of each and every one of the lettered or numbered systems commencing with the system known as "A"?

A: I have. On pages 147 and 148 is a recapitulation for each system showing the derivation of the figures carried forward from those pages to page 146. On page 147 is an example with respect to the "A" System. It will be found on page 151 that I made 28 observations on the "A" System. The average of these observations was 94.61 per cent. On Line "A" itself—that is, on the main line of this system—I made 12 observations and these 12 observations average $95\frac{1}{2}$ per cent. Now, I carried forward to page 147 the round figure of 95 per cent and applied that to \$3,170,075.09, reproduction cost new, to obtain the reproduction cost new less depreciation, or present value figure of \$3,011,571.34. Now, similarly on the gathering lines the average shown on page 151 from 10 observations was 97.3 per cent. I have used 97 per cent, ever, with respect to the pipe line tap lines. On this system six observations showed an average of 88.3 per cent; I have used 88 per cent. Now, that is typical of the method used. In applying the average per cent condition to the reproduction cost new I have dropped the decimals and used the even percentages.

[fol. 1713] Q. In a similar manner, Mr. Biddison, did you make a determination in respect of the main lines and the tap lines and gathering lines on the B Systems or other numbered and lettered pipe line systems of the Company?

A. I did, and the details of it are shown in pages up to and including 174.

Q. Now, Mr. Biddison, I wish you would relate to the jury, in a general way, what has been the method pursued by

you in determining that pipe is in 80 per cent or 90 per cent or 95 per cent condition of new.

A. At each of the locations where inspections were made, shown on the pages I have referred to in connection with transmission line equipment I had a hole dug large enough so that I could thoroughly see and inspect this pipe. As shown on page 149, I made notations as to the line on which an inspection was made, the location on the line, the class of soil; the condition of the paint is described under the column of "Remarks", and the condition found with respect to the pipe itself is shown in the column headed "Remarks", and, taking the first item, which is an 18-inch pipe in the system near Petrolia-Compressor Station, 1000 feet west of Petrolia Suction Header—at that point the soil was sandy red clay; it was apparent that the painting job done at that point was [fol. 1714] poor, because there were spots to which paint apparently had not adhered—pipe painters refer to those as being 'holidays'. It was also found at that location that the paint would peel off quite readily; that it would adhere to the soil, and in some places adhered to the soil in preference to adhering to the pipe, and when you took the soil away from around the pipe the paint came off with it. Now, with respect to the pipe itself at this location, my notes show that there were shallow scaling spots. This was observation No. 297. Now, at that location my inspection of the paint indicated that its value was only ten per cent of the value of a new paint job on that pipe; that the amount of damage which had been done to the pipe itself was about five per cent of the total amount of damage which would be required to render that pipe valueless. Therefore, that pipe was in 95 per cent condition. Now, this paint being—amounting to possibly four per cent—no, amounting to about two per cent of the cost of the job on an 18-inch pipe, and being only worth ten per cent, I just assumed that it was worth nothing, and have taken off two per cent from my 95 per cent condition to arrive at an over-all condition of 93 per cent for the installed pipe at this location.

Q. Take another example, at the top of page 158 on the G System, the G 16-inch line, Junction G-1.

[fol. 1715] A. This is a 16-inch line. At that point the soil was red clay; the paint was mostly gone, light scaling was general.

Q. That is, there was a light scaling on the pipe itself?

A. Yes, sir.

Q. Had it destroyed much of the pipe wall?

A. No. This was my observation No. 356. My conclusion set down at that time while looking at the pipe was that the paint was worth nothing, that the pipe had suffered a depreciation of fifteen per cent, and was therefore in 85 per cent condition, and that the over-all condition was 84 per cent.

Q. Take, for example, Mr. Biddison, the inspection No. 404 which you made and disclose on page 166 of Defendant's Exhibit 37, it being the second inspection on that page.

A. That inspection is on Line L-14-1. That means it is on a branch No. 1 of Tap Line No. 14 off of Line L. It is a 4-inch line, and it is close to the Rockdale Measuring Station. The soil is loamy white sand to sandy red clay—that is, the soil changes within the depth of the ditch at that point from loamy white sand to a sandy red clay. The paint looks good, but small corrosion spots show outside of the paint, and a few tiny pits were found. It is my judgment that at [fol. 1716] that point the paint was the equivalent of 80 per cent of the value of new paint; that the pipe had suffered one per cent depreciation, and was, therefore, worth 99 per cent; that allowing for the twenty per cent depreciation in the paint itself, the total depreciation was 98 per cent, or was about two per cent, or the condition of the pipe installed over-all was 98 per cent.

Q. Take, Mr. Biddison, the inspection which you made on Line L-12 at Junction L-4, appearing at the bottom of that page.

A. This is an inspection of 12-inch pipe in Line L at the point where Line L-4 connects with Line L. The soil is black waxy. The paint was mostly gone; numerous pits on the top half and a general light scaling and *and* pitting on the bottom half. I estimate that the paint at that location has no value any more; that the pipe has suffered 22 per cent depreciation, or is in 78 per cent condition, and allowing that the paint constituted three per cent of the total value of the job, since it was in zero condition, I have deducted three per cent from the 78 per cent to obtain the over-all condition of this job of 75 per cent as shown.

Q. Now; in several cases in connection with your ob-
[fol. 1717] servation which you have described, you have stated that the millscale was loosening in spots, with shallow pits. What do you mean by "millscale" on the pipe?

A. As pipe comes from the mill it has on the outside surface, and adhering generally pretty tightly to the pipe, a thin layer of material, which is not steel but consists of slag, with possibly some steel in it. This is what is commonly referred to as being the millscale.

Q. What is slag?

A. Slag—I couldn't tell you the chemical composition of it now, but in general it is the impurities found in iron and steel which work out to the surface in the course of manufacture and rolling, mingled with some limestone or limestone products.

Q. Mr. Biddison, in a manner similar to the manner that you have described specific observations in connection with the pipe contained in transmission line equipment, did you make all of the other observations and inspections of the pipe which are detailed commencing at page 149 and ending at page 174?

A. I did.

Q. And in connection with each observation you have shown the line on which the inspection was made, the approximate location of the inspection, and under the column [fol. 1718] "Remarks" you have noted the kind of soil in which the pipe was laid, whether the paint was good or otherwise, and what was the effect of corrosion, if any, upon the pipe?

A. That is correct.

Q. And also, in respect of each observation, you have shown your observation serial number, the per cent condition of the paint, the per cent condition of the pipe, and your over-all per cent condition determination?

A. That is correct.

Q. And all of those details have been summarized and carried forward to the summary on page 146?

A. That is correct.

Q. And in respect of your evaluation of the transmission line equipment on the basis of reproduction cost new in the amount of \$31,894,439.40, you determined that the application of your determined per cent condition of 92.28 per cent gave you a present value figure of \$29,432,462.72?

A. That is right.

Q. All as reflected on that page?

A. Yes, sir.

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[fol. 1719] Q. Mr. Biddison, did you make a sufficient number of examinations and inspections and observations of the transmission line equipment which would enable you, as you believe, to express a satisfactory opinion as to the condition of that character of equipment, and classification of property as a whole, covering the pipe line system of the company?

A. I did. I made more examinations than I would make if I were representing a prospective purchaser.

Q. Mr. Biddison, refer please to page 176 of Defendant's Exhibit 37; what have you summarized on that page?

A. Compressing station property.

Q. Have you personally visited, observed and inspected the equipment at each and every one of the compressor stations of the company?

A. I have. I have inspected every one, and some of them I have been in numerous times.

Q. And would you say that you have a complete familiarity with that character of the company's property?

A. Yes, I have.

Q. Are you familiar with the standard of maintenance of that character of property?

A. Yes.

Q. Is the property well maintained, or otherwise?

A. This property is exceptionally well maintained. I do not know of any gas company's compressing station property, of ages comparable with these stations, that are maintained in any better condition than are these stations.

Q. The first station appearing in the list is the Alvord compressing station, in Callahan County, Texas?

A. Yes.

Q. That is a relatively small station, is it not, Mr. Biddison?

A. It is. It is the smallest compressing station of the company.

Q. Take some other station which would be typical of the inspections and determinations which you have made, and summarize in a general way the manner in which you proceeded to make your determination of the observed depreciation or the per cent condition of new.

A. Well, I might take Caddo station, which is a good sized station and represents over \$290,000.00 reproduction cost new. The details of my observations on that are on

page 184. Now on this page it shows that I have set up for land itself a condition of 100 per cent, and for the improvements a condition of 87 per cent, which results in a weighted condition for land with improvements of 89.81 per cent. With regard to the structures, there are five structures on which I did not make specific notes at the time of my inspection. All the other structures shown were noted specifically upon inspection.

Q. The structures on which you did not make specific notes are denoted by the letter "E"?

A. That is correct.

Q. They are all relatively small structures, as compared with the entire property account?

[fol. 1721] A. Yes, they are small compared to the entire property account, and only two of them are of any material importance whatever, one of them being a little over a Thousand Dollars, reproduction cost new, and the other one a little under a Thousand Dollars, reproduction cost new.

Q. And one of them small as \$54.22?

A. Yes. Now applying to each structure, the per cent condition as shown in the condition column, I arrived at the present values as shown in the present value column, and thereby determining that the present value of the structures at this station was the sum of \$27,129.14, as compared to a reproduction cost new of \$32,290.31. Now, this figure which I have derived for present value is 84.02 per cent of the reproduction cost new. Now with regard to the equipment, I show in the per cent condition column my determination of the condition of these various units or classes of equipment.

Q. Of course the main units of compressor engines themselves are the largest items in the equipment column?

A. They are. They constitute nearly \$115,000.00 out of a total of equipment of less than \$221,000.00. From these determinations of per cent condition for each item or groups of items of property, I find that the present value of the equipment is \$190,671.62, which is 86 per cent of the \$221,714.18 estimated cost of reproduction new, and I find that for the total property at this station, the sum of the items in the present value column is \$224,969.14, which is [fol. 1722] 85.87 per cent of the \$261,986.25, estimated cost of reproduction new. Therefore, I have carried forward from page 185 to page 176 that figure of present value, and that figure of condition, for the Caddo station.

Q. And in a similar manner, Mr. Biddison, did you make a determination of the observed depreciation or the per cent condition of new for each and every other station, including all buildings and equipment located at the stations?

A. I did.

Q. And a detail of your findings is set forth in this section of the Exhibit, commencing at page 177 and ending at page 234?

A. That is correct.

Q. And as you stated, the method of your determination in respect of the Caddo station was followed in connection with all of the other stations?

A. That is correct.

Q. Refer please to page 236. What do you set forth on that page?

A. The determination of the condition of general office land. This is the site on which is located the office building in Dallas. The reproduction cost new of this land is taken or has been taken at its actual cost of \$44,545.00, as given in Exhibit 28. To it I assigned a condition of 100 per cent; that is, this land has not depreciated. It has not changed in condition. I therefore have a present value figure identical with the cost of reproduction new, or \$44,545.00.

Q. On page 237 it would appear that you have similarly [fol. 1723] taken other general land at 100 per cent of its reproduction cost new or purchase price, in the amount of \$44,157.00?

A. That is true in respect of land.

Q. Now what is true in respect of improvements located on that land?

A. As to the improvements located on that land, my determination is that they are in 95 per cent condition. Therefore the present value of those improvements which cost or are estimated to cost new \$5,116.87, is \$4,861.03; and the total present value of that land and those improvements is \$49,018.03, as compared to its estimated cost of reproduction new of \$49,273.87, or the weighted per cent condition as shown on page 237 is 99.48 per cent.

Q. Refer please to page 238. Have you given on that page the reproduction cost new, per cent condition and present value of the general office building of the company?

A. I have.

Q. Did you make that determination of per cent condition?

A. I did. That is my own determination, and that determination was made by an inspection of the building.

Q. And based upon that inspection, do you believe that the per cent condition of new of that building is 93 per cent?

A. I do.

Q. Is that building well maintained?

A. It is maintained in excellent condition.

Q. Refer please to page 239 of Defendant's Exhibit 37. [fol. 1724] What have you summarized on that page, Mr. Biddison?

A. Other general structures, and that means structures other than the general office building, including the general shop at Dallas, the warehouse, garage and machine shop in connection therewith. The shop addition, a steel building used as a warehouse, and the pipe racks at that same point. I show a determination of the per cent condition for each of the four structures, and have applied that per cent condition for the respective structures to the respective estimated costs of reproduction new, to obtain the present value figures corresponding thereto. The present value figures so determined amount in total to \$45,328.83, which is 96.88 per cent of the estimated cost of reproduction new.

Q. Are those structures well maintained?

A. Yes, they are. They are in good condition.

Q. Refer please to page 240, under the heading of General Office furniture and fixtures. How did you determine the per cent condition of that character of property?

A. That condition is determined by an inspection. I have seen—I don't believe I have seen every item of this equipment, but I have been through this office generally and have seen practically all the office furniture and fixtures in use by the Lone Star Gas Company at its general office.

Q. And based upon that visual inspection and observation, did you determine that the observed depreciation was 15 per cent, and that this classification of property was in [fol. 1725] 85 per cent condition of new?

A. That is correct. Some of that equipment, as of the date of the appraisal, was almost new.

Q. Isn't that true of a very substantial part of it?

A. It is—a very large amount of it.

Q. Refer please to page 241. What have you summarized on that page?

A. Other general furniture and fixtures. This includes furniture and fixtures outside of the Dallas general office, in the shops and warehouses.

Q. Now, you did not give as high a per cent condition to this class of property as to the general office furniture and fixtures?

A. No, that is correct. A great deal of this equipment is equipment which has been in use in the general office, and which has been transferred to these local points for use, and replaced in the general office by new, and in many cases, better equipment.

Q. In connection with this classification of property known as other general furniture and fixtures, you determined that it had suffered a depreciation of 35 per cent?

A. Yes, that is my estimate.

Q. And that it was in 65 per cent condition of new?

A. That is correct.

Q. Refer please to page 242, on which page you have summarized the general shop equipment. Did you inspect [fol. 1726] this class of equipment, Mr. Biddison?

A. I did.

Q. Have you inspected it at numerous times?

A. Yes, I have been in that shop quite often, and the figures of per cent condition shown on page 242 represent my judgment of the value of that equipment, or the condition of that equipment, compared to new equipment.

Q. And based upon that determination, you find a present value or a depreciated value of \$97,429.70 for the total of that class of property, and for which you make an estimate of reproduction cost new, in the amount of \$104,000.27?

A. That is correct.

Q. And that gives you a determination of per cent condition of 93.68 per cent of new?

A. That is correct.

Q. Refer please to page 243 of Defendant's Exhibit 37. What is this class of equipment?

A. General tools. This is the same classification on those general tools as is found in Exhibit 28, and divided between compressing station tools; gas measurement tools; general shop tools; meter shop tools; pipe line tools; production tools; storehouse tools and telephone tools. That is, it is divided among those different departments, as to the amount set aside for the use of the different departments.

Q. Now, Mr. Biddison, I don't suppose that you want to represent to this jury that you have seen all of the general [fol. 1727] tools of the company?

A. No, because I don't think I have at all.

Q. That would have been manifestly impossible, for you to have made an inspection of all the tools?

A. That is correct.

Q. They are scattered throughout the pipe line system?

A. That is correct.

Q. But you have examined and inspected a representative amount of this classification of property?

A. Yes, I have seen some of the tools at each one of the compressing stations. I have seen a great deal of the gas measurement tools around the general shop and on the automotive equipment used by the employes in the gas measurement department. I have seen the tools and the tool room in the general shop. I have seen the pipe line tools at various locations along the company's pipe line system. I have seen production tools, both in the Panhandle area, the West Texas area, and in the yard at the Farwell warehouse in Oklahoma. I have been in various storehouses, and I don't know now what this \$10.61 for storehouse tools is, but I may have seen it. The telephone tools I have seen in use at various places on the system.

Q. As a result of the inspections which you have made, you determined that the per cent condition over-all of the general tool account was 78.18 per cent?

A. Yes, as shown on page 243.

Q. Refer please to page 244. That appears to be a summary of the automotive and construction equipment. Now, Mr. Biddison, have you seen a great part of the construction equipment of the company?

A. I have.

Q. Consisting of air compressors, ditching machines, backfillers, tractors.

A. I have.

Q. Have you seen all of the automobiles and trucks of the company?

A. I don't think so. I have seen a great many of them.

Q. Have you seen a sufficient number of the automobiles and trucks of the company to give you a good idea as to the general character of condition in which that equipment is found?

A. I have, and knowing something about the policy of the company in regard to the time at which they retire equipment, I think I am informed in a general way as to the limit of condition to which that class of property might run before being retired from service.

Q: In order to make the matter clear so far as this class of property is concerned, Mr. Biddison, I will ask you if you attempted to arrive at the per cent condition of this property based upon its tradein value?

A. No, sir.

Q. Or its sales value?

A. I did not.

Q. Have you endeavored to arrive at its per cent condition based upon its utility to the company?

[fol. 1729] A. That is not the basis. The basis of this determination is the amount of deterioration suffered, compared to the amount which would render the item useless for the purpose designed.

Q. You have not attempted to apply any so-called values or blue-book ratings to this equipment, as second-hand?

A. No, I never saw one of those blue books long enough to find out what it meant.

Q. The company maintains a general automobile shop at Dallas where cars are currently repaired and maintained?

A. It does.

Q. And automobiles in the company's fleet, as well as the company's trucks, are frequently overhauled?

A. Yes, I have seen a great deal of that work in progress at those shops.

Q. Refer please to pages 245 and 246. What have you set forth on those pages?

A. I have set forth a determination of the per cent condition and present value of the company's general telephone system.

[fol. 1730] Q. Now, Mr. Biddison, how did you go about your method of determining the observed depreciation in per cent condition for the general telephone system equipment of the Company?

A. As I went over the Lone Star Gas Company property inspecting other items, at such places as were convenient I made notations of the condition of the telephone line. I grouped those observations by subdivisions of the telephone line system. On page 247, I show observations which I made

on that part of the system extending from Petrolia, Texas, to Shamrock, Texas, along Line A.

Q. That is approximately 200 miles of telephone line, isn't it, Mr. Biddison?

A. It is in a uniformly good condition. The average of those observations on page 247 is 95 per cent, and the average of those observations on page 247 is applied on page 245 to the \$64,545.43 estimated reproduction cost new of that telephone system. Now, in a similar manner I have determined average conditions for other sections of telephone system and have applied on page 245 averages so obtained to certain sections of the telephone system. There are, however, some sections which I did not see, and some sections which I saw and did not make observations upon.

Q. That is, you made no specific notes?

[fol. 1731] A. That is correct. But I did make specific notes sufficient to make a determination of condition on sections of this telephone system estimated to cost for reproduction new \$274,562.92, out of a total of \$310,227.12, and the present value of those sections so observed and noted is \$245,875.19, or 89.55 per cent of the estimated cost of reproduction new. Applying this percentage to the total, including General Supervision allocated of \$370,464.12, I develop a present value for the Telephone System of \$331,750.62.

Q. Now, Mr. Biddison, the summary of your findings in respect of the observed depreciation, or the per cent condition of new of property, are carried over to page 1 of Defendant's Exhibit 37?

A. Yes; they are first carried through the recapitulation on pages 2, 3, and 4, and from there carried forward in the final summary form to page 1.

Q. Now, Mr. Biddison, when we refer to page 1 of Defendant's Exhibit 37, it is noted that you do not depreciate Preliminary and Organization Expense, Working Capital, or Going Concern Value?

A. That is correct.

Q. Why did you not depreciate those items?

A. Those are not items of property which depreciate. They are not subjected to the things that cause depreciation—acid soils, alkali soils, weather conditions, do not affect those items.

[fol. 1732] Q. Or rust, rot, or decay?

A. No.

Q. But in connection with your determination of the per cent condition of the physical property, you have depreciated the undistributed general costs which have been allocated to the production system property, the gathering system property, the transmission system property, the compressing system property, and the general system property?

A. I have, as shown on pages 2, 3, and 4.

Q. Why did you depreciate the undistributed general costs?

A. These undistributed general costs, as I see them, are parts of the physical property, and differ from pipe and fittings, and the labor of installing the pipe and the labor of installing the fittings, only in the fact that in accounting for expenditures during construction, those items of expense cannot readily be assigned to specific pieces of pipe or to specific fittings. Their life or their value runs concurrently with the life or with the value of the direct structural costs; and I have, therefore, depreciated those items to the same extent that I have depreciated the direct structural costs for the classes of property to which they respectively pertain.

Q. Mr. Biddison, throughout Exhibit 37 you have followed the same property classifications which are set forth and included in the inventory and appraisal, which we know in [fol. 1733] this case as Defendant's Exhibit 28?

A. I have.

Q. Could you make an estimate of the approximate amount of time that you spent in connection with the observations and inspections which are set forth and summarized in Defendant's Exhibit 37?

A. Well, I spent the greater part of four months in making the observations.

Q. And in the making of those observations, did you go from Chickasha, Oklahoma to Round Rock, Texas, north and south?

A. Yes, sir.

Q. And from Colorado and Snyder, Texas, on the west, to Paris, Clarksville, Sulphur Springs, and Greenville, on the east?

A. Yes; I believe Clarksville is the farthest east on the system.

Q. Now, several months have elapsed since you have completed this examination and inspection of the company's property as set forth in this exhibit?

A. Yes, sir.

Q. But in those several months have you had occasion to be over the property at various times and see various component parts thereof?

A. I have.

Q. Do you believe that the per cent condition of the property as of this date, to-wit, June 27, 1934, is substantially [fol. 1734] the same as the determination of per cent condition set forth on page 1, of Defendant's Exhibit 37?

A. I do. I think that any change since the date of my inspections up to the present time in condition of this property would be very minute.

Q. Mr. Biddison, in connection with all classes of the Company's public service property for which you have made a per cent condition determination, as set forth in Exhibit 37, do you believe that you have seen a sufficient amount of the property and inspected a sufficient amount of the property to enable you to testify as to its overall per cent condition?

A. I do; and I believe that I have made a more careful inspection of this property for the purpose of determination of the per cent condition for this report than I would have made had I been representing a prospective purchaser of this property.

Q. And based upon your determination of the per cent condition of the property, what is the present value, based upon reproduction cost new as determined by you in Exhibit 28, less the observed depreciation found and determined in Exhibit 37?

A. \$69,738,021.16.

[fol. 1735] Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Biddison, I believe you testified that the correction which should be made on valves amounted to \$4,603.78; is that correct?

A. \$4,603.78 is correct.

Q. Now, how many valves does that cover?

A. It is on 62 drilling valves; but there were not corrections on all of those valves. Did you want the total valves that were studied on that?

Q. I want to know how many different kinds of valves besides this, and then I want to know how many corrections in all you made?

A. Well, I would have to take this off and classify it in order to give an answer to that. I can tell you very shortly how many corrections were made; but to tabulate that off by kinds and sizes, that would take a lot of time.

Q. All right; how many corrections did you make?

A. Seventeen corrections.

Q. That would average about \$275 per valve?

A. I don't know what it would average out. It would not mean anything if it did.

[fol. 1736] Q. Well, on these 10x8 $\frac{1}{4}$ screw end, drilling, gate valves, 1600-pound test, what was the price that you finally applied to those valves?

A. Well, for Crane 10x8 $\frac{1}{4}$ inch, 1600-pound test, I applied a price of \$196.5052.

Q. Did you use the same price for the Westcott and Walworth valves?

A. No, sir.

Q. What was the price on the Westcott valve?

A. For Westcott 10x8 $\frac{1}{4}$ inch, 800-pound working pressure, I applied a price of \$205.1486. Those are both cast iron valves, and in both cases the error was made of substituting a price and in making the substitution pricing them as if they were steel valves. They are 10x8 $\frac{1}{4}$ valves—the body is 10-inch, and they are fitted for 8 $\frac{1}{4}$ casing.

[fol. 1737] Q. Yes, sir. This includes the tap valve that you had priced originally at over \$700.00, does it not?

A. One of the valves that was so priced was a Westcott 10 by 8, listed as 1600 pounds working pressure. I question whether that is the working pressure or test pressure on that valve, but I have had no opportunity to make the final determination on that. One of those valves was priced at \$717.30 on page 109 of Exhibit 28. I have priced it here as if it were a 1600-pound test valve, or 800-pound working pressure valve, at \$205.148.

Q. For the Crane 10 by 8 $\frac{1}{4}$ drilling valve, 1600 pounds test, appearing on page 100, and all other valves like it, where you use the price of \$717.36, you priced that at \$196.50, did you not?

A. Yes, sir.

Q. On the well lines which you say should have been eliminated from the inventory, as well as all the lines that are still in the inventory and appraisal, you allowed omissions and contingencies, did you not?

A. Yes, sir.

Q. In what amount—what per cent? Is it $21\frac{1}{2}$ per cent?

A. On field lines the omissions and contingencies is 5 per cent, and that is included in the amounts which I have [fol. 1738] stated were deductible by reason of the inclusion of lines which should have been omitted.

Q. Don't these instances, Mr. Biddison, where you have priced certain items or property at too much, and other instances where you have included items of property which should not be included, show that it is just as possible in making an appraisal of this sort for rate-making purposes to over-state the amount of the value of property, as it is to understate it?

A. No, it does not show that at all, Mr. Fitzhugh. It does show that with respect to any classification of property it is possible to include something which should not be included; but as to relative possibilities, it does not make any such showing as your question intimates. Now, I do not think that the possibilities of inclusion of additional property are of any great moment, while the opportunities for the omission of property are of considerable magnitude. Now, in connection with—

Q. Just the same, Mr. Biddison—

A. Wait a minute, if you please.

Q. All right.

A. In connection with the matter of some of these lines I fail to find included two measuring stations which are in operation and have been continuously in operation, not [fol. 1739] only as of the date of the appraisal but since that date. Now, I don't feel like trying to add those to the valuation determined, but at the same time I can not locate them in the inventory, and yet my investigation shows that they are there and operating.

Q. Well, why is it you don't make the addition? There is nothing to prevent it, is there?

A. Well, I think it is too trivial to fool with on a job of this size.

Q. Just the same, Mr. Biddison, those items where you have accepted corrections are just the sort of thing that show that your appraisal would have been a little bit more accurate if you had included a deduction for duplications or items improperly included, rather than including an item for omissions and contingencies?

A. No, it does not show that. It does show that the job would have been more accurate if these things which should

have been omitted had actually been omitted. It does show that, but it does not show the other at all, and I don't think even indicates the other.

Q. Mr. Biddison, when you were on the stand before we failed to get the price you used on some tubing. I wonder if we could get that now—do you have that data with you still? [fol. 1740] The tubing I refer to is on page 2182 of your appraisal—that is Volume 4 of Exhibit 28.

A. I will try to find it for you, Mr. Fitzhugh, My own price-books from which I worked this up are not here, and I will have to refer to the others.

Q. Would you mind getting it for us by in the morning?

A. I will try to have it for you in the morning, yes.

* * * * *

[fol. 1741] Q. Mr. Biddison, on page 6, of your Exhibit 37, there appears a per cent condition for "Other Owned Wells" of 85 per cent?

A. Yes, sir.

Q. That is the first determination that you made in this exhibit, is it not?

A. Yes, sir.

Q. Following the Reproduction Cost New amount, you have a letter "E"; what does that mean?

A. That means that figure of 85 per cent is not determined by the numerical average of my observations on that equipment.

Q. Do you have with you your observations made on these wells?

A. I have them with me, but I don't have them averaged up and classified.

[fol. 1742] Q. Well, refer to the observations you made on these wells and show how you determined the per cent condition of any one well?

A. I made observations on a large number of these wells, as explained yesterday in giving my testimony; but for the determination of this condition of 85 per cent I did not classify and average all those particular observations. The condition of that equipment is, in my opinion, nearer 90 per cent than it is 85 per cent. I simply used 85 per cent as a conservative figure after having made these inspections. Now, I can pick those out of my list and classify them, but I don't think there is any purpose to be served in doing that.

Q. Well, what was the use of making the observations if you disregarded them?

A. Inasmuch as practically all of those observations were 90 per cent or above, I used the conservative figure of 85 per cent.

Q. Now, refer to these observations and pick out any one of the wells.

A. Well, I don't know whether I can do it at this time, because I have not classified out those observations.

Q. Well now, suppose, Mr. Biddison, that you found a well to be in 85 per cent condition, do you mean by that, that 85 per cent of the value of that well and equipment as it would cost new is still in the well?

[fol. 1743] A. No; all of the material listed in the column "Reproduction Cost New" and the labor of installing it is there. The value of that equipment and the labor of installing it is, in my opinion, 85 per cent of the reproduction cost new. Now, on these wells listed as "Other Owned Wells", this material and equipment and the labor of installing it is not in drilling the wells; this is equipment above the surface.

Mr. Griffith: It is observable equipment?

A. Yes.

Q. This equipment includes just the "Christmas tree"—the surface equipment?

A. Yes, sir. Now, that equipment is all in excellent condition. I saw very few locations where as much as 15 per cent depreciation had occurred. It is uniformly well painted,—

Q. What would be the difference in the appearance of the surface fittings on a well in 85 per cent condition as distinguished from one in a hundred per cent condition?

A. One in a hundred per cent condition would look just absolutely perfect and brand new; and one in 85 per cent condition would look as if it had depreciated 15 per cent, or approximately one-seventh of the damage that would render the equipment useless had occurred.

Q. Just pick out any typical installation that you remember having actually inspected that was in 85 per cent condition, and describe in detail the appearance of those fittings?

A. Well, I don't know that there was one installation on these wells owned by others in which my observation was actually exactly 85 per cent; but, in general, if it would appear from inspection that ten per cent of the total damage

done to that equipment which would render it useless had occurred, I set down a figure of 90 per cent condition. Now, that is the general method.

Q. Now, just pick out any case where you remember 90 per cent—

A. I don't remember 90 per cent, or any one particular figure on this list; but having seen a large number of them, I am of the opinion that the condition is over 85 per cent.

Q. I am trying to find out what it is that knocks out that value—is it rust on the fittings, knicked places, no paint, broken valve stems, or what?

A. Any or all of those things would impair its value.

Q. Did you take into consideration for the other owned wells the depletion that had occurred on the wells?

A. No; that does not affect the condition of the equipment.

Q. Suppose you had a well with no gas in it, the fittings would be worth only salvage value, wouldn't they?

A. They might or might not.

Q. Well, would they or not be worth more than salvage value?

[fol. 1745] A. It would depend upon the condition of the whole.

Q. Suppose that ten per cent of the original supply of gas was still in the well, wouldn't the value of the fittings then be considerably less than the same fittings on a well with still one hundred per cent of the reserve under ground?

A. No, sir.

Q. In other words, nowhere in finding your per cent condition here did you take into consideration the probable future life of the wells?

A. Certainly not. They don't affect the condition of that equipment one iota.

Q. Does it make a difference in the money value of property whether it is going to be in shape to serve a month, or ten months, or ten years?

A. It may.

Q. You didn't take into consideration that, anyway?

A. No; because I don't think it affects the value of this equipment, and it certainly does not affect its condition.

Q. Suppose that you knew of a "Christmas tree" over on a well would be abandoned along with the well within thirty days, and that the value of the equipment on the well at that time would be only the salvage value, wouldn't you

price the "Christmas tree" as of the date of inspection at less than you would on a well expected to have a life of ten years?

[fol. 1746] A. No, sir; I would not for this reason: If you are going to operate that well for the balance of that period you would have to have that equipment on there; and if it were not on there and you had to put it back it would cost this reproduction cost new, and its value would be the reproduction cost new less depreciation. Now, you will accrue in reserve account as deduction from revenues for conditions like you have mentioned, where property is removed in advance of its failure on account of the physical condition; but that does not affect its physical condition while in use.

Q. Well, this final value is an entirely different proposition from providing for maintenance and wear and tear in operating expenses?

A. Yes, sir.

Q. On page 8, you show for Clarkson Ware House Site—this is under Other Production System Structures—a per cent condition of 90. How did you find that?

A. By observation of that.

Q. What did you find on that site that caused you to knock off 10 per cent from its new value?

A. I have no specific notes of the factors that contribute to the total of ten per cent. My notes show that for that residence, upon inspection, I estimated it to be in condition of 90 per cent relative to a new structure.

[fol. 1747] Q. Are your notes of about that general tenor on all the cottages?

A. Yes, sir.

Q. You have no specific notes on any of them?

A. No, sir.

Q. Now, this house has been built about fifteen years, hasn't it?

A. I don't know. I was not interested in its age or antecedents, but only in its condition when I saw it.

Q. Did you examine the foundation of this house?

A. I don't know how minutely I examined the foundation. I looked at the building and decided it to be in that condition.

Q. Did you look at the floor joists?

A. No, sir; I didn't crawl under and look at the floor joists.

Q. It is a fact, isn't it, that the house could not be in any better condition than the foundations and floor joists?

A. Certainly, it could be; on the other hand, it could be in much worse condition.

Q. Did you make any particular inspection of any cottage as to its foundation and floor joists?

A. I didn't crawl under any cottage to look at its foundation and floor joists. The observations set down are general overall observations of these cottages. They are not weighted from making separate notes as to foundations, floor joists, walls, roofs, and so forth.

[fol. 1748] Q. Suppose you came to a house that looked absolutely in good condition as to exterior appearance, and suppose you had crawled under and found the foundation was so faulty that it needed immediate replacement, what per cent condition would you have found that house to be in?

A. That would depend on what shape the balance of the building was in.

Q. Take this Clarkson Warehouse Cottage No. 58, and if you had found the condition of that cottage like I described, what would you have found the per cent condition?

A. If the foundation needed immediate replacement, somewhere between 2 and 10 per cent, depending upon the foundation.

Q. Suppose you had found rotten floor joists?

A. That would have had some effect on the condition; just what I don't know, without weighting it out with respect to the particular structure.

Q. Now, there are several hundred of these cottages similar to this?

A. Yes.

Q. You made the same sort of inspection on all of them, didn't you?

A. Yes.

Q. And in no case where you found anything defective, did you make a particular determination to see what its relation to the per cent new value would be?

A. No, sir; I made my notes on these structures as an overall figure for the entire building.

[fol. 1749] Q. As shown on page 8, you found a per cent condition of 85 per cent on the Cheaney Field, Eastland

County, Texas, Cottage No. 216; 90 per cent on the Clarkson Warehouse Site, Cottage No. 58; 80 per cent condition on the Petrolia Cottage No. 42; 75 per cent on the Roberson Lease Cottage No. 80. Then you weighed those per cent conditions and found an average per cent condition of 82.73 per cent, didn't you?

A. Yes, sir.

Q. Then you applied that percentage back to the Hatcher Lease, Wheeler County, Texas, as to pump house, water wells, water handling equipment and dam, did you not?

A. No, sir.

Q. What did you do about the Hatcher Lease structures and equipment?

A. On the four structures which I observed I determined a weighted condition of 82.73 per cent, as you related. Now, the total amount of structures in this group is \$9,450.29, so I applied to that, not the 82.73 per cent determined on four structures, but the even figure of 82 per cent, and thereby determined the depreciated value of \$7749.24.

Q. Well, the only difference between what you have just detailed and what I say it is, you dropped off the .73 of one per cent from your average of 82.73 per cent?

[fol. 1750] A. Yes; that is right.

Q. Now, why do you think that the condition of these four cottages would be in any way related to such equipment as the pump house, water wells, water handling equipment, and dam, on the Hatcher Lease?

A. Well, I think probably that equipment might be in a higher per cent condition, but not having seen it, I gave it the benefit of the doubt and called it 82 per cent over all.

Q. Well, that is just about the same as making a guess at it, isn't it?

A. Exactly the same, but it is a guess made in the light of information.

[fol. 1751] Q. Well, isn't it a fact, Mr. Biddison, that these cottages bear about the same relation to water handling equipment and dams as if you had found the per cent condition of four horses and applied that to the water handling equipment and dams?

A. No, it is a class of equipment that is in the same class of organization, and generally the condition of property under one organization has been found to be kept at fairly uniform levels as to condition.

Q. On page 10, the next item, Other Production System Equipment, Drill, Repair and Clean Out Tools, reproduction new \$95,764.08. After that item you have the letter "E". That means, does it not, that that is just an estimate?

A. It means that the figure is not the numerical average of observations taken. The figure is an estimated figure as the result of having seen some of that equipment in each one of those fields.

Q. Well, after seeing it you didn't use any average of your observations to find per cent condition?

A. No, I did not; I have specifically so stated.

Q. So after you made the observation you didn't use the observation for any purpose?

A. Yes; the observations were used as a guide in the determination of this figure of 75 per cent, but I did not set down specifically the observations and average them up to get this figure of 75 per cent.

Q. There is included in this equipment, Other Production System Equipment, a number of old boilers; is that true?

[fol. 1752] A. There are some boilers in that equipment; yes, sir.

Q. How did you go about finding the per cent condition for those?

A. Well, I looked over those boilers. I have bought a lot of boilers, both new and second-hand. I might be able to locate one of those here eventually in my notes. (Witness refers to his notes.)

Q. Well, at any rate, Mr. Biddison, you simply looked at the exterior of the boilers, didn't you?

A. I looked at the exterior and looked in the fire-boxes.

Q. What inspection did you make of the tubes in the boilers?

A. Well, I looked at the tubes through the fire-box end and through the stack end. I did not make a pressure test and did not go over the rivets with a hammer to see if they were loose; I did not go through all that routine.

Q. Well, refer to any of the larger pieces of equipment in the repair and clean out tools and state how you found the per cent condition.

A. Well, I can determine the condition by looking at the equipment, and it is my opinion on the average that it is about 75 per cent.

Q. Well, Mr. Biddison, if I understand you, you say you looked at those and determined the condition?

A. Well, I didn't undertake to work out those on that class of equipment at all. As a matter of fact I have not taken them out of my tabulation and classified them at all.

Q. Well, would you read your notes on any important piece of equipment, just to see what you did do? This is [fol. 1753] no small matter, Mr. Biddison. If you made an error of one per cent in the condition it would amount to about a thousand dollars each time?

A. Yes, it certainly would, and therefore in order to be safe I have taken what I considered to be conservative figures on the condition. It is not possible for anybody by any means to determine a figure of that sort with any degree of exactitude.

Q. That is the reason the whole thing is more or less uncertain, is it not?

A. No, it does not make it uncertain.

Q. It is inaccurate?

A. If one uses judgment his resultant figure will be one of judgment.

Q. Well, just start anywhere and read some of your notes, Mr. Biddison.

A. Well, I will as soon as I locate some of that class of equipment. I have not classified them here so as to locate them.

Q. Well, let that go and let's go to the next class of property. Page 13, Gathering System Rights of Way. You find that to be 100 per cent condition?

A. Yes, sir.

Q. In no instance in finding the value of this property have you considered the probable length of life of the right of way?

A. Absolutely not.

[fol. 1754] Q. It is a fact that the Gathering System lines are moved pretty often—they are comparatively short lived?

A. Yes, sir, they are.

Q. They are moved quite often?

A. That is right.

Q. But you have evaluated this right of way as 100 per cent condition, just the same as if it was going to last a thousand years or more, have you not?

A. That is right.

Q. Now, you did depreciate in finding the final value for the gathering lines to the extent of the supervision on those lines, did you not—the overheads on the gathering lines?

A. The aliquot portion of those overheads which applies to gathering system rights of way is in effect not depreciated. I depreciated the overheads on production system property and gathering system property in a proportion that the depreciation amounted to on the direct structural cost.

Q. Well, to make it clear, Mr. Biddison, if you had found the gathering lines to be in 75 per cent condition wouldn't you then have found the overheads to have lost 25 per cent [fol. 1755] of their value or found the overheads to be in 75 per cent condition?

A. Yes, sir; I would have.

Q. You would have?

A. Yes, sir.

Q. Now, why do you figure, Mr. Biddison, that the overheads would lose value in accordance with the wear and tear of the pipe, but at the same time the value of rights of way would not be affected at all by the wear of the pipe or by the length of the line in service—the probable length of service life?

A. I consider those overheads as being just as much as a piece of property as is the pipe and the fittings and the labor of installation. The only difference in these overheads is that they can not be identified with the minute exactness of property, that their life expires with the piece of property, that they are parts of that property, and that as that property decays or corrodes those values disappear gradually with the value of the physical property. In the case of a right of way, that right expires suddenly, not gradually, and its condition throughout its life does not change.

Q. The right may expire suddenly, but the value is affected somewhat by the time when it is going to expire, does it not.

A. I think not. Take a particular line that is going to be retired the next month, if we didn't have the right it [fol. 1756] would cost us today that same amount that it did cost in order to get the use for one month.

Q. If you knew that all these rights of way shown on page 13 were going to be abandoned as of the day after your appraisal would you still have included them as 100 per cent condition?

A. Yes, I would include them at 100 per cent condition up to the date of abandonment. I would, however, accrue them in reserve account for that sudden retirement.

Q. Well, that don't have anything to do with finding the value?

A. Absolutely not, and should not be confused with it.

Q. The observations that you have referred to on the various pieces of property we have covered so far as the same observations that you made before you testified before the Railroad Commission, aren't they?

A. Well, I have seen a great deal of this equipment since then, but without any modification of my conclusions reached at that hearing before the Railroad Commission.

Q. You found exactly the same condition of property as you found then?

A. Well, I found nothing to change my conclusion in that respect.

Q. Well, have you made any additional inspection?

A. I have made no additional notations of inspection of the equipment about which you have questioned me so far.

Q. And the notes you have just been referring to are the notes without change that you testified to before the Railroad Commission?

[fol. 1757] A. Yes, sir.

Q. Now, the date of your appraisal before the Commission was January 1, 1932, and the date of your appraisal here in this case is January 1, 1933?

A. Yes, sir.

Q. That is, you found that that year's passage of time made no difference whatsoever in the per cent condition of those classes of property?

A. Well, the observations were not made as of either date, but were made at a period just about half way between the two dates and apply with equal validity to either one.

Q. Well, you don't mean, do you, Mr. Biddison, that you made observation after January 1, 1932, which you applied to the appraisal as of the date January 1, 1932?

A. Exactly; that is exactly what I mean. That is precisely what I did and precisely what I testified to before

the Commission. The observations were made in the summer of 1932. Mr. Simon Freese was along while some of these inspections were made.

[fol. 1758] Q. Now, this is 1934—how much time has passed since you made these observations?

A. About two years has passed since some of these observations were made, and one year has passed—substantially one year since the last observations were made.

Q. The next classification of property is Field Measuring Station Structures. The first structure shown is the—on page 17 for the Panhandle Field, is the J. A. Hall No. 1 Well. You found this to be in 98 per cent condition, did you not?

A. Yes, sir.

Q. What notes did you make on this structure?

A. My notes read: "Meter station No. 3187 Lone Star J. H. Hall No. 1, building 98 per cent, equipment 98 per cent".

Q. Are those your complete notes?

A. That is the complete note.

Q. What was the matter with the structure building that you knocked off two per cent of its value?

A. I don't know right now; probably the paint was not in excellent condition.

Q. Aren't those corrugated iron buildings?

A. Some of them are, but the bulk of the meter station buildings are also painted.

Q. You mean the corrugated iron ones are painted?

[fol. 1759] A. Yes, sir.

Q. What is the matter with the equipment, that you knocked off two per cent of its value?

A. Well, probably nothing that is visible; and that is in most cases an allowance for defects that are not apparent upon inspection.

Q. On page 17 of your exhibit, what does the—in the observation number column what do these Cs and Ds mean?

A. Well, with respect to that 341-C that would mean that I made a subdivision of my serial number 341.

Q. You have got three observations, then, under 341-C, is that it?

A. I have more than that; I have subdivisions down to F—341-A, B, C, D, E, and F.

Q. Does that apply to different equipment, or observations on the same equipment?

A. Well, in this particular case it simply happens to be a correction to serial number.

Q. Well, that doesn't have any particular significance, except to trace down the number of your observations?

A. That is all it is for.

Q. What do those obelisks and Xs, and one thing and another, in the meter column mean?

A. I can't read them on my copy. (Witness refers to counsel's copy). Well, I don't think they mean anything. [fol. 1760] Q. All right. Now, refer to the Fox Field—Billy McKinley No. 1 Well, where you found 70 per cent condition, what are your notes on that observation?

A. "Observation 339, Billy McKinley Well, Loco Field, Meter Station No. 151, Building, wood frame, corrugated galvanized, painting 70 per cent, equipment 98 per cent."

Q. Now, what was the difference between this structure and the others where you found the 90 per cent condition, or the 98 per cent condition?

A. I don't know; but when I was on the job I set down the figures representing my estimate of the relative condition in each case. I have not attempted to write down in detail everything in regard to those buildings that would try to describe their condition. I have not attempted to do any such thing. I would still be writing notes out there at this location, I guess, if I tried to do that.

Q. Well, there is no way that we can check up, then, Mr. Biddison, to find out whether you proceeded in the correct manner to find your per cent conditions, is there?

A. Only to just ask me if I did, and I will say Yes, I did.

Q. Well, just so we can get some idea as to how you [fol. 1761] knocked off all this value, or how you saved all of it in most cases, can you give a description of one of these typical measuring station structures that you think would be in 70 per cent condition?

A. I couldn't describe to you now, after that lapse of time, a single one of those structures.

Q. Well, you know pretty well how they are built, don't you?

A. Yes.

Q. Well, can't you fix up for us a picture of some building that would be in 70 per cent condition, so we would see whether it is a total wreck—

A. No, it is not a total wreck;—

Q. —or just a partial wreck?

A. —a building in 70 per cent condition might be one on which the paint was largely peeled off and of no practical value any more, and on which the corrugated sheets might be loosened in some cases, and in some cases might have holes poked through, and it might be that the door sags and hangs out of line, and there might be some damage to the interior framing.

Q. Well, now, suppose you come to a structure where the door was sagging and otherwise the structure is in pretty good shape—the paint and all in good condition, would you try to relate the value of that door replaced or the necessary [fol. 1762] money outlay to fix up the door, to the value of the structure as a whole, to get the per cent condition.

A. Hardly that. Not an estimate of the amount of money necessary to put the building back in good condition, but rather an analysis of the amount of damage which that represented as compared to the total value of the building.

Q. Suppose you take a structure, Mr. Biddison, that costs \$100.00 new, and your observation shows this structure to be in 70 per cent condition, do you mean by that that if the owner should spend \$30.00 in repairs on that structure he would have a new building back again?

A. Not by any means, not at all; on the contrary, if there has been damage done to that building to the extent of \$30.00, it will more than likely cost the owner \$60.00 to repair the damage.

Q. So that there is no relation between the per cent condition you have found and the amount of money that would be required to repair the piece of property?

A. No, sir, there is not.

Q. On your observations in the Panhandle Field you found in each case where you made observations on the field measuring station equipment that the per cent condition was [fol. 1763] 98 per cent, did you not?

A. You are talking about equipment now?

Q. Yes, sir, page 23.

A. That is correct.

Q. That is, you found the condition was in the same condition on every well?

A. As near as it could be determined, yes, sir. That is excellent equipment up there, and uniformly well maintained.

Q. That covered 17 wells that you looked at?

A. Yes, sir.

Q. On the Chickasha Field, where you made a number of observations—about a dozen—you found 97 per cent on all the field measuring station equipment on those wells?

A. Yes, sir.

Q. What is the lowest that you found for any well—95 per cent, isn't it?

A. I believe so; yes.

Q. Now, we come to Field Line Equipment—on the Re-production New of this class of property, \$1,324,159.00, you found 88.78 per cent condition, did you not?

A. Yes, sir.

Q. Isn't it likely that at the present time, or as of the date of your appraisal, Mr. Biddison, that on an average about half of the length of life of all the field lines was gone? [fol. 1764] A. Well, now, I don't know about that. I don't think anybody knows about that. That is a figure that can hardly be determined.

Q. Do you know about what the average length of service life of field lines in existence as of the date of your appraisal was?

A. I do not.

Q. Beginning with page 29 and running through page 39 you show your observations on this field line equipment, do you not?

A. Yes, sir.

Q. Now, how big an opening did you make at the points where you made your observations on the field lines?

A. Well, these openings were not uniform in size; they were large enough, however, that the pipe could be inspected for its complete circumference and long enough so that two feet or more could be seen. Now, that was the general rule; there were some exceptions to those; I can't tell you which ones now.

Q. The holes that you opened were about two feet in diameter, is that it?

A. No, these holes were not circular holes; they were, in general, from three to four feet long and from two to five feet wide, depending upon the size of the pipe.

[fol. 1765] Q. About how much of the pipe was exposed?

A. As a general rule, at least two feet of pipe was open for inspection; in most cases there was available at least three feet.

Q. Did you have all of the portion of the exposed pipe scraped?

A. Not all of the portion of the exposed pipe, no.

Q. Well, what was the area that you actually had scraped on an ordinary, average inspection?

A. Well, in some cases I didn't scrape any of it, but I scraped in any case enough to determine the amount of corrosion and the extent of corrosion; that sometimes didn't require any scraping, and sometimes it required a considerable amount of scraping.

Q. Now, where you were looking at pipe that was in 20-foot joints, the exposed portion would probably not be over six or eight inches, would it, that was actually scraped?

A. Well, maybe not, that was actually scraped in some cases; but in other cases the amount that was actually scraped might have been three feet.

Q. Well, why would there be such variation? You mean where there might seem to be some unusual condition you had more of the pipe scraped?

[fol. 1766] A. Yes.

Q. I see. Well, now, in examining a 20-foot joint of pipe, the relative part covered by any one inspection would be small as compared with the total length of the joint, wouldn't it?

A. That is correct.

Q. At the same time, Mr. Biddison, the joint of pipe would be no better than the worst place in the pipe, isn't that true?

A. That is not true, certainly not. You might have one hole in a piece of pipe that you could repair by making a weld on it, and the balance of the pipe be perfect.

Q. Well, if you had a blow-out on a piece of pipe, Mr. Biddison, that let all the gas out, the good portion of the pipe wouldn't be any good to you, would it?

A. Sure it would; certainly.

Q. Not until the repairs were made and some additional labor and material put on that piece of pipe?

A. Well, it might or might not be until that was done; but that doesn't render that joint of pipe entirely valueless.

Q. Well, it would be just the merest sort of accident, wouldn't it, Mr. Biddison, if you happened to strike at the point of your observation, even, as to the 20-foot joint of

[fol. 1767] pipe being inspected, the worst places in the pipe?

A. As to a particular joint that is true; but on the average, under the law of probabilities, it is not true.

Q. And, furthermore, it would be just the merest sort of accident if you happened to hit the worst 20-foot joint in the whole line, or in the portion of the line being inspected?

A. That is true as to any particular joint, yes.

Q. Now, to really get a fair idea of the value of a line in service, where you are just spot-checking, as you did, shouldn't you really take an average of the worst observations out of about every ten or twenty observations, rather than to take an average of the whole, which includes the best observations, as well as the worst?

A. Why, no; that is just the same as taking the observations of the ten best ones, and calling that the answer.

Q. Well, your pipe is no better than the worst places in it, is it?

A. It certainly is—it certainly is.

Q. Well, if it were really to be reasoned the way you suggest, Mr. Biddison, you would never throw a piece of [fol. 1768] pipe away, would you? You would always have some good part of it?

A. Well, you nearly always do, in fact, have some good pipe left out of a joint that is discarded. The question is whether there is enough life left to justify the use of the short section.

Q. If you had a pipe that was so pitted as that the walls of the pipe were just barely thick enough to stand the pressure of gas in the line, you would still find at an observation point some place on the line a good portion, would you not?

A. Not necessarily. Ordinarily, you wouldn't; there are occasions when you might.

[fol. 1769] Q. Well, if you did happen to strike a good portion of pipe or a pipe like that, you would still ascribe it to a very high per cent condition, wouldn't you?

A. I would ascribe to the piece of pipe the condition I found on the section I looked at, certainly.

Q. How many observations did you say you made on the field line equipment?

A. 134.

Q. Now would you say these 134 observations averaged as much as two feet of exposed pipe, scraped off?

A. Yes, I think that would be a very close approximation.

Q. In other words, you actually looked at exposed pipe amounting to about 268 feet?

A. That's about right.

Q. How many thousands of feet of pipe are in this field line equipment?

A. I don't know.

Q. Well, can you say approximately?

A. No, but it is a great many miles.

Q. Five hundred miles, or a thousand—or how many?

A. Well, I would be making a very rank guess about it. I don't remember.

Q. You could not even approximate it?

A. No.

Q. Now, the lowest per cent condition that you found from your observations on this class of equipment is 67 [fol. 1770] per cent; isn't that right?

A. I'll see.

Q. I beg your pardon. On page 38, I believe there is one 50 per cent you found for pipe. That is probably the lowest one, is it not?

A. Well, on page 38 there is one at 62 and one at 47 per cent.

Q. Well, that is including the paint, where you found the 47 per cent, isn't it?

A. Well, that is the over-all condition.

Q. All right; now take that 47 per cent condition and describe in detail what you saw on that pipe.

A. Now, all I know about that particular piece of pipe is what I saw when I was there, and that is set out right on that page: brown sandy clay, was the soil; paint gone; very heavy scale, and large deep pits.

Q. What size pipe is this? Or before you look that up, Mr. Biddison, at the time you made this examination you did not know the weight of this pipe, did you?

A. No.

Q. Or did you know the thickness of the pipe?

A. No, sir. It was 10 inch pipe.

Q. Ten inch—what weight?

A. 32.515 pound pipe.

Q. How deep were the pits that you found?

A. I don't know now. I did not make notes about the depth of those pits, and I can't tell you a thing in the world [fol. 1771] about it now except what I have just told you.

Q. Not knowing the thickness of the pipe at the time you made the observation, Mr. Biddison, what good did it do you to find out the depth of the pit?

A. I know very closely the average thickness on pipe walls. I have been handling pipe for thirty years, and I have some idea as to the relative depth of pit to the wall thickness when I look at it.

Q. Did you measure the depth of the pits?

A. I did in some cases, but not as a general rule.

Q. Well, now, suppose just for the sake of illustration, Mr. Biddison, that you did know the thickness of the wall and say it was one-quarter inch thick, and you found a pit that went half way through the thickness of the pipe wall. Now how would you relate that data to the per cent condition of that pipe, assuming that in all other respects the pipe was in good condition?

A. And just had one pit?

Q. Yes.

A. Well, I would take off something in the neighborhood of five per cent.

Q. Suppose you found other pits of the same thickness?

A. It would depend entirely upon their number.

Q. What difference, Mr. Biddison, would it make if you had one or twenty pits say, per square foot of surface? Would the increase in the number of pits increase the [fol. 1772] probability of blowouts or wearing out of the pipe at that point?

A. Yes, it would.

Q. And it should affect the per cent condition?

A. Yes.

Q. Just how did you take into consideration the number of pits as well as the depth of pits?

A. Well, I didn't count them at all, but I judged by inspection of the pipe the amount of damage that had been done relative to the amount that would be required to render the pipe valueless.

Q. Did you attempt in any way to relate the condition of the pipe as you saw it while making your observations, to the probable length of life of that pipe?

A. No, not in any way, shape or form; certainly not.

Q. You think the probable life of pipe hasn't anything to do with its per cent condition?

A. I don't think it. I know it.

Q. Or the value of pipe?

A. Absolutely nothing. A pipe may have a value today of One Dollar a foot, which value may disappear over night due to some sudden happening, and that same pipe in another location may last for a hundred years, and its condition today in both cases would be identical.

Q. Suppose you came to a point where, from the soil conditions and the other conditions at that point in the line, you knew that the average length of pipe life would be forty years, and that the piece of pipe you were looking [fol. 1773] at had been installed ten years. Would you use that information in any way, providing you had it, in finding the per cent condition?

A. No, I would not. I would be governed entirely by the condition the pipe was in.

Q. And in no case in making your observations did you attempt to find out in any way how long the equipment had been installed?

A. Certainly not.

Q. Now, on a lot of this very field line equipment that you made your observations on, at the time you were making your observations, there were being pieces of pipe replaced from time to time in these lines. Isn't that true?

A. Well, I don't know that any operations of replacement were going on at that time.

Q. Well, you do know, do you not Mr. Biddison, that replacements were being made from time to time and continuously and have always been made on field line equipment?

A. Well, from time to time, but not continuously. I also know that the bulk of those replacements are made not on account of the condition of the pipe but for entirely different reasons that have nothing whatever to do with the condition of the pipe.

Q. The records of your company show that there are replacements of pipe because of worn out condition every year, do they not, in thousands of feet of field line equipment?

A. They might; I don't believe they do.

Q. Well, there are some replacements, anyway?

[fol. 1774] A. There are a lot of replacements, yes.

Q. And because of the worn out condition of pipe?

A. Some replacements because of the worn out condition of pipe, yes, certainly.

Q. Now, at the time the pipe is taken out of a field line because of its worn out condition, what per cent condition is it in at that time?

A. Well, the pipe that is taken out on that account may largely be in zero condition, but at the same time when a removal is made on account of the condition of pipe, there are usually removals of pipe made simultaneously which would not ordinarily be removed if it were not for the fact that the removal of some pipe in zero condition were in progress.

Q. Just the same, you don't show any condition of pipe in any observations that anywhere closely approaches a zero per cent condition, do you?

A. No. 47 per cent is the nearest, on this equipment.

Q. Now, you do not show any observation other than that as low as 47 per cent, do you?

A. No. The next highest one is 62 per cent.

Q. And the average is 88 per cent, plus?

A. That is correct.

Q. The next classification of property is transmission system measuring station land. The land itself is taken at 100 per cent, is it not?

A. That is correct.

Q. And it is only the improvements that are found to be [fol. 1775] in less than 100 per cent condition?

A. That is correct.

Q. The improvements on this class of property consist of shrubbery and drives and fences and that sort of thing, do they not, Mr. Biddison?

A. Yes, and culverts.

Q. On page 43 you show the improvements on quite a number of stations in the "A" system, to all be in 98 per cent condition?

A. Yes.

Q. How did you happen to find that Mr. Biddison?

A. Well, they are in uniformly good condition—just about all alike. You can not tell very much difference in condition on any of them.

Q. Did you make separate notes on those observations?

A. Yes.

Q. Suppose you refer to your notes and show what your observations were.

A. Well, I have before me here, at Chillicothe—

Q. What do your notes say?

A. Observation No. 129, Chillicothe City Gate Station: Building, wood, frame, corrugated galvanized, painted, crushed rock floor, 95 per cent. Equipment 98 per cent. Fences 98 per cent.

Q. Is that all?

A. That is all on that one.

Q. Now, you do not say a thing there about the condition of the shrubs, the drives or the fences—or rather, you do [fol. 1776] about fences, don't you?

A. Yes.

Q. But as to sod or anything else at the station in the way of improvements, such as rose bushes and so on?

A. I don't think there is any of that at this location. I will have to go back into that.

Q. Well, there is no use of looking that up. There is a drive there, isn't there Mr. Biddison, or some improvements besides a fence?

A. I don't believe there is at that one. The fence is the only thing I made note of in the way of improvements, however, at that location.

Q. Well, the next classification of property at page 79 is transmission system rights of way, in the amount of \$1,242,000.69, and that you found to be in 100 per cent condition?

A. That is correct.

Q. Your reasons for allowing the 100 per cent condition on these rights of way would be the same as on the gathering system rights of way?

A. Precisely.

Q. And in no case did you take into consideration the probable length of life of the line?

A. In no case.

Q. Or the condition of the pipe?

A. That is correct.

Q. The next class or section is transmission system measuring station structures?

[fol. 1777] A. Yes.

Q. On this class of property you find an average per cent condition of 94.71?

A. That is correct.

Q. Now practically all of these structures are corrugated iron buildings, are they not?

A. Yes.

Q. On page 82 you show the city gate station structure at Mountain Park, to be in 75 per cent condition. No—that is 75 per cent ownership, I believe. You show it to be in 97 per cent condition. What do your notes say on this structure?

A. Building Idaco Steel, concrete floor, 97 per cent. Equipment 98 per cent. Walks 100 per cent; fence 98 per cent; shrubbery 100 per cent.

Q. Did you in every case find the shrubbery in 100 per cent?

A. No.

Q. The description that you have in that observation of the structure is typical of all the observations you made on structures, is it not?

A. As to the form in which the observation is set down, yes.

Q. Yes. In other words, that is in as much detail as you have it in your notes?

A. Yes.

Q. The next classification of property is other transmission system structures. On page 108 you have some buildings listed with an "E" notation?

A. Yes.

[fol. 1778] Q. What does the "E" mean as applied to these values?

A. That means that those values are not noted in my notes. You will find some of them appearing on page 107 as well. Take with respect to Shamrock warehouse site. My notes do not show an observation with respect to the storm cellar. My notes do not show an observation with respect to the gas, water and sewage system. With respect to Vernon camp site, my notes do not show an observation with respect to the auto grease rack, and the gas, water and sewage system; nor do my notes show an observation with respect to the gas equipment at the Linkey farm.

Q. Now, everything in these sheets, even the ones that do not have an E following them, represent pure estimates, do they not, Mr. Biddison?

A. Certainly.

Q. And those that you have noted with an E notation, are really estimates without any factual data behind them. Isn't that what you mean by that?

A. No, I do not mean that by it. I mean that when at that location I did not make specific note of the condition on those particular items designated with an E.

Q. Well, that is just another way of acknowledging that you don't know much about those, isn't it Mr. Biddison?

A. Well, my information on those is of course not as definite as the ones about which I made specific notes. That is quite apparent.

Q. Have you seen any of the equipment where you have [fol. 1779] made the "E" notation?

A. Certainly I have.

Q. But you have made no notes on it; is that the idea?

A. That's the idea. For example, on page 108, the line walker's house at Prairie Dog gate, and the line walker's house at Texas state line; I have been to both of those. The pipe racks listed on that page—I have seen a great number of those.

Q. But at the time you were there you did not make notes as to their condition or anything of that sort?

A. I did not make notations; that is correct.

Q. Now, in other transmission system structures, page 113, you have some fifteen or so items listed with the notation "E"?

A. That is correct.

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[fol. 1780] Q. Now, we come to the classification of property—Transmission Line Equipment—this is the biggest one in the whole appraisal, is it not?

A. Yes, sir.

Q. Being the amount of \$31,894,439.40?

A. That is correct.

Q. For this type of equipment you found a per cent condition average of 92.28 per cent?

A. That is correct.

Q. Now, on this class of property, if you are off so much as one per cent, it would make a difference of approximately \$319,000, wouldn't it?

A. Yes, sir.

Q. This class of equipment includes all of the pipe in the big pipe lines and transmission lines?

A. Yes, sir.

Q. Now, your observations on this class of equipment were made in the same manner as the observations on gathering lines?

A. Yes, sir.

Q. That is you depend altogether on a few little spot checks over the system and the visual observations you made at those points?

A. Not a few; but a large number of checks at various points.

[fol. 1781] Q. How many observations did you make?

A. I don't think I have added them up. I can do so quite readily here.

Q. Well, in round numbers it would be around four hundred, wouldn't it?

A. Something of that sort, yes.

Q. In other words, your observations would have covered about 800 feet of pipe?

A. Nearer 1200.

Q. Twelve hundred feet of pipe?

A. Yes.

Q. Of this class of equipment there are considerably over 3000 miles of line, isn't there?

A. Yes, sir.

Q. In other words, change that into terms of feet, it would be about fifteen million feet, wouldn't it?

A. Yes, sir.

Q. To find the value for about fifteen million feet of pipe, you determined that on the basis of observations made on about 1200 feet of pipe?

A. That is right.

Q. And if you were one per cent off, it would make a difference of \$319,000?

A. That is right.

Q. Now, Mr. Biddison, in all these observations—these approximately 400 observations you say you made—you [fol. 1782] depended entirely on the appearance of the outside of the pipe, didn't you?

A. Yes, sir.

Q. Now, there have been some cases where substantial replacements were made necessary by inside corrosion, isn't that true?

A. Yes; in two locations of which I know on the system, replacements have been made on account of interior corrosion.

Mr. Griffith: Does pipe generally corrode on the inside?

A. Very rarely.

Q. Practically all of the recent replacements made on the line that came out of Joshua—two lines, I believe it was—were made on account of inside corrosion, were they not?

A. Yes, substantial replacements were made on the outlet at Joshua Station on account of interior corrosion.

Q. There have been some considerable replacements made out of the Breckenridge Station on account of interior corrosion?

A. Comparatively small ones; there was a section of about four or five miles, I think, that was affected by interior corrosion.

Q. In none of your per cent conditions have you taken into consideration the inside condition of the pipe, have you?

A. Yes; I believe at Breckenridge Station, I gave some consideration there to an observation based on the in-[fol. 1783]terior condition of the pipe, because at the time of the inspection there there was a joint which had blown out as a result of interior corrosion of pipe.

Q. Now, Mr. Biddison, at the hearing before the Railroad Commission, which was based on the same notes, you told us you were guided solely by the outside appearance of the pipe and did not take into consideration the interior corrosion?

A. That is generally true; but I believe in that specific instance I gave consideration to that.

Q. Well, read your notes on that observation.

A. "Line O-16 inch, one-quarter mile east of Breckenridge Compressor Station, joint blown out. Pipe weakened by internal corrossions to less than one-half original thickness in places. Paint good and exterior of pipe unaffected. Observation number 5; paint 80 per cent condition; pipe 20; overall 18 per cent."

Q. Does that show in this exhibit?

A. Yes; on page 169, Exhibit 37, first item.

Q. What other observation besides this one do you show you noticed any interior corrosion?

A. Well, I don't believe I show any consideration of interior corrosion in any other inspection; I don't recall one at this time.

Q. None of the inspections coming out of Joshua Station [fol. 1784] show any interior corrosion, do they?

A. I think not.

Q. Wasn't the replacement made last year on Line "L" on account of interior corrosion—a replacement amounting to about 5,000 feet of pipe?

A. There was such a replacement, and I believe on account of interior corrosion.

Q. And amounting to about 5,000 feet of pipe?

A. Something near that.

Mr. Griffith: I think that was on Line "O", rather than Line "L", wasn't it?

A. I am not sure on which line it was.

Q. Well, on one of those lines coming out of the Joshua Station?

A. Yes.

Q. On page 149, on your second observation on that page, you have the notation, "Very light pitting under paint." What accounted for that pitting?

A. It was corrosion that caused it.

Q. Could you see the pits under the paint?

A. No; but you could find them by scraping the paint off.

Q. You mean you scraped off the paint to find these pits here?

A. Yes. My notes show that discoloration showed through the paint, and to find out what the effects of that had been the paint was scraped off and there was found that [fol. 1785] there was very light pitting under the paint.

Q. Now, could you see the pitting before it was scraped?

A. I don't know in regard to this specific location; but, generally, you could not under conditions as found here, and you would have to scrape the paint off to find out.

Q. On the 18-inch, the lowest per cent condition you found on pipe was at this point, was it not—91 per cent overall?

A. Yes.

Q. Now, explain to the jury, Mr. Biddison, just exactly in making this observation what processes your mind went through to get the 91 per cent condition—or omitting the paint consideration, just as to the 92 per cent condition that you found for the condition of the pipe?

A. Well, inspection of that pipe indicated to me that if about twelve times as much damage were done to that pipe by pitting as had been done the pipe would be worthless; therefore, the pipe had suffered about one-twelfth of the damage that would render it useless, or had declined in condition about 8 per cent; therefore, I gave it a condition of 92 per cent.

Q. Now, your notation here is very light pitting. Did you, by looking at this pipe at the time of the observation, decide that approximately one-twelfth of the steel thickness of the pipe had disappeared?

A. No, sir; I did not.

[fol. 1786] Q. Well, did you decide that one-twelfth of the weight of the pipe had disappeared from deterioration?

A. No, sir.

Q. Well, did you decide that one-twelfth of the functional value of the pipe had disappeared?

A. No, sir; I decided that about one-twelfth of the total damage that would render the pipe valueless had occurred.

Q. Well, do you mean by that that one-twelfth of the service life of the pipe had disappeared?

A. Not in time, no; not in years.

Q. If you did not give some consideration to the actual physical disappearance of part of the pipe, or to the life of the pipe, or to the functional value of the pipe in service, or to the weight of the pipe new as compared with the weight of the pipe in its then condition, or to the depth of the pitting as compared to the total thickness of the wall of the pipe, what in the world did you depend upon to find your per cent condition?

A. I depend upon the depth of the pitting—the extent of the pitting. Now, the condition of pipe is not in proportion at all to the amount of weight that may be lost. A piece of pipe may lose but five or ten per cent of its weight and be in zero condition; so the loss in weight is not a measure of its condition; and if I had considered in some of these instances simply the loss in weight of pipe, I would have [fol. 1787] had conditions way above what I have here; that is no measure of condition by itself.

Q. But taken into consideration with other things, it may be, though, may it not?

A. It may and may not be.

Q. But you don't use it at all?

A. Not as an exclusive guide, no.

Q. But, Mr. Biddison, as to the pits, what was the depth of these pits?

A. I don't know; but from the notes here I would say that the pitting that occurred here was probably not more than two or three hundredths of an inch deep.

Q. You did not know at the time you made this observation what the wall thickness of the pipe was?

A. Not specifically, no.

Q. So, even if you had known the exact depth of the pits—the average depth of the pits, the number of pits per square foot, or any other information as regards the pits, you still would not have been able to relate that to the depth—strike that—to the thickness of the wall of pipe?

A. Yes; you could relate it to the thickness of the pipe.

Q. You did not know the thickness of the pipe, though, did you?

A. Not specifically, no; but after you relate it to the thickness of the pipe, you still would not have any answer that [fol. 1788] meant anything.

Q. Mr. Biddison, isn't it, as a matter of fact, virtually a practical impossibility to find the condition of property such as this when it is all underground with any degree of certainty at all?

A. No; it is not at all impossible to do, and it is possible and practicable to do it; but it is not possible to do what you have intimated, and by a mathematical formula, from the number of pits, and depth of pits, and thickness of pipe wall, and age of pipe, and average life of pipe, tie them up into a figure that represents the condition or value of the pipe.

Q. Isn't it a fact that the only way that you could be sure about the condition of pipe would be to take it up and take it apart and look at it inside and out?

A. No; that is not true. There are some conditions under which the determination of the condition of pipe would require interior examination, but those are rare instances.

Q. Wouldn't a much more certain and much more satisfactory method be to use life studies of pipe as shown by the replacement studies, or the replacement records actually shown in your company's records?

A. No; because those replacement records will not produce the basic data from which condition can be determined in any way, shape, or form.

[fol. 1789] Q. Why?

A. Because those replacement records are on replacements due to causes other than condition of pipe.

Q. Well, you can very easily separate the pipe that is taken out for causes other than wear and tear on the pipe, can't you?

A. Not very readily. You can make some progress in that respect.

Q. Why can't you? You always know when a pipe is taken out why it is being taken out, don't you?

A. You may know at the time. I don't know whether the records always show it or not.

Q. This much is certain, Mr. Biddison, that records of that sort could be made and kept, if you wanted to?

A. Yes; records of that sort could be made and kept, and if they were kept for a period of maybe a hundred years, then I believe you might have data from which a determination of condition might be made with some rational approach to accuracy.

[fol. 1790] Q. If a study of that sort were made it would be much better than all this guesswork, wouldn't it?

A. Well, I am not talking about anything that I consider to be guesswork.

Q. Well, you will admit, Mr. Biddison, won't you, that where you don't know the interior condition of pipe by simply looking at the outside that your outside examination is absolutely no criterion for the condition of the pipe?

A. In a location where pipe is subject to interior corrosion an exterior examination does not reveal or may not reveal the full facts—I admit that; but the balance of your inference is totally incorrect.

Q. Even in the cases where there is no interior corrosion your outside examination is still an uncertain method of finding per cent condition, is it not?

A. No, it is not. It is the only method of which I have any knowledge or of which I can conceive by which the condition of property can be ascertained.

Q. You mean in the absence of life studies of pipe?

A. No, I don't mean in the absence of life studies of pipe. I don't think the condition of any kind of property can be definitely determined except by examination of the property. I don't see how you can expect at any time to go to a book some place and find out what the condition of a

piece of pipe is at a location five hundred miles away. I think the way to determine the condition of the pipe is to go and look at it.

[fol. 1791] Q. All right. On page 150, Observation 684, you have the same sandy red clay as shown in the observation we were just talking about. In this case the notation is: "Paint good, but numerous rust spots underlain by small pits", whereas the notation in the first place was: "Discoloration through paint and soil adheres to paint. Very light pitting under paint". In the first case you get 82 per cent condition—I mean 92 per cent condition, and in the second case you get 85 per cent condition. Now, what was the difference between the pipes in the two cases?

A. Well, the difference is that in the second case, where I have 85 per cent condition, there was more damage done to the pipe.

Q. Well, in both cases you have small pits, don't you?

A. Well, there is a difference in the intensity of the pits; one shows 92 per cent, very little pit; the other says "small pits".

Q. On line B, on the 16 and 18 inch, what is the lowest per cent condition you found?

A. 90, on pipe itself; 89 over all. I have three observations there; 89 per cent over all.

Q. On Second B, how long is that line?

A. Oh, somewhere around one hundred miles.

Q. You have got four observations on that pipe, haven't you?

A. Yes, sir.

Q. What is the lowest per cent condition on that?

A. 97.

[fol. 1792] Q. What is the lowest per cent you show for condition of pipe?

A. 98.

Q. What is the value of that line—a million eight hundred thousand and something, isn't it? Well, it is shown in your exhibit, Mr. Biddison, page 147.

A. Yes, I can get it.

Q. You have got \$1,828,421.66?

A. Well, I will have to get Exhibit 28. Yes, \$1,828,421.66.

Q. On three of these observations you found pipe in 98 per cent condition, and on the fourth 100 per cent condition?

A. That is correct.

Q. So on each one of those observations the amount when averaged in is the basis for the valuation of about half a million dollars' worth of property, isn't it?

A. Yes, sir.

Q. At the same time, there are replacements being made on that line every year, are there not?

A. Line Second B? I don't know whether there has been a single replacement yet on Line Second B of the 20 inch pipe.

Q. Are you willing to say, Mr. Biddison, that there was not a single replacement on this line in 1933?

A. No; I just said I didn't know.

Q. Well, as a matter of fact weren't there same replacements during that year on this very line?

A. I just said twice I didn't know. I doubt it very much.
[fol. 1793] Q. On this observation where you found the pipe in 100 per cent condition, how long had that pipe been installed?

A. That line was laid, I think, in 1929, or thereabouts.

Q. Well, had this pipe been in the ground three or four years?

A. Yes, sir.

Q. And you found it in perfect condition—no wear and tear to it?

A. Yes, no sign of corrosion of pipe and the paint excellent.

Q. In other words, if this pipe keeps up its same record in the four years of its life so far it will never wear out?

A. That is right. If nothing happens to it it will never wear out.

Q. On the "C" System you made three observations?—that is page 154.

A. Yes, sir.

Q. Those three observations would take care of about \$585,900.00 worth of property, wouldn't they?

A. Yes, sir.

Q. At no point in your entire valuation of the Transmission Line Equipment have you found any pipe in zero condition?

A. I don't believe so.

Q. The lowest you found was this pipe that was just about ready to be taken out at Breckenridge, wasn't it, where you found 18, I believe you said?

A. Well, I could not state that definitely without checking through here, but I believe that is correct.

Q. Now, outside of that one low observation, you don't [fol. 1794] show anything below fifty per cent, do you?

A. Well, I would have to check through all this to see.

Q. Well, without taking time to do that, you know as a matter of fact, don't you, Mr. Biddison, that there are very few low conditions—that is, fifty per cent or lower?

A. Well, I know there are not a great many of them—I know that.

Q. On page 163, Transmission Line Equipment on the "K" System, how long has the "K" System been built?

A. I don't know.

Q. About between ten and fifteen years, isn't it—ten or twelve years, along in there?

A. Well, I think it is something on that order.

Q. That is one of these West Texas lines?

A. Yes, sir.

Q. They have been out there quite a while?

A. Yes, sir.

Q. Nevertheless, on this page you show nine observations at 100 per cent and on the following page five more observations at 100 per cent?

A. That is correct, again exemplifying that the age of pipe is no criterion as to its condition.

Q. Besides these fifteen observations where you found 100 per cent condition, you have thirteen—you have five at 99 per cent and thirteen between 90 and 99, do you not?

A. Well, there are five of them at 99.

Q. And then eight others between 99 and 90? [fol. 1795] A. Between 99 and 90? I think it is five of them. There are some about 90. If you include them maybe your figures are correct.

Q. And your average on all observations and the per cent condition that you finally applied to this line where the value as found by your reproduction cost new \$5,153,684.18 is 96.12 per cent of new?

A. That is true.

Q. Now, if your calculation as to per cent condition on this line are correct, Mr. Biddison, this line is going to last an awful long time, isn't it?

A. It will last just as long as anybody wants to keep it in operation.

Q. As a matter of fact don't you know, Mr. Biddison, that as of this present time large replacements are being made on the "K" System?

A. No.

Q. Do you know what the replacements of pipe on "K" System for 1933 were?

A. No.

Q. Do you know what they were for 1932?

A. No, nor any other year.

Q. If you had known, Mr. Biddison, that substantial replacements on the "K" System were being made during the years 1932 and 1933 and are still being made would you have changed the per cent condition as found by you on this system?

[fol. 1796] A. No. That is the condition which I actually found by looking at it.

Q. What is the lowest per cent condition you found on that line, of pipe?

A. 90 per cent, pipe.

Q. Where in this exhibit do you show how you found the per cent condition of the bridges for the Transmission Lines Equipment or any other special construction?

A. I don't show it in this exhibit.

Q. Well, do you show it at all anywhere?

A. I have notations in my field notes.

Q. Well, did you make separate observations of the special equipment—special construction?

A. On a great deal of it, yes.

Q. Well, how did you take it into consideration?

A. In the final analysis I did not take it into consideration, but applied to the Transmission Line Equipment as a whole the mean condition determined from the observations on pipe.

Q. So, while you made some inspections of the special construction, such as bridges and so forth, you did not use any average of any calculation from the per cent condition you may have found by those observations in finding the value of the equipment when included in your appraisal?

A. That is correct.

Q. The approximate value of the bridges is how much—about a million dollars?

[fol. 1797] A. Something approaching that figure.

Q. I mean the reproduction cost new.

A. Yes, something approaching that figure, I believe.

Q. Isn't it a fact, Mr. Biddison, that on the numbered system—the lines in the numbered system—there are a number of wooden gate boxes?

A. Yes; that is true.

Q. How did you go about including those in the appraisal?

A. The condition of those is given the same figure as was derived from the observations of pipe on the numbered systems.

Q. Well, you didn't make separate observations for the wooden gate boxes?

A. No, sir.

Q. But simply gave to them whatever condition you found for the pipe line where they appeared?

A. That is correct.

Q. In other words, on the numbered systems you found these gate boxes to be in 92 per cent condition, approximately?

A. Well, I don't know offhand whether I made any notations of condition of those gate boxes on the numbered systems or not, but, at any rate, they are at 92 per cent condition in this report, and that is the condition found from inspection of the pipe, and I have applied it to the whole property in the numbered systems.

Q. Just the same, it is a fact, Mr. Biddison, that a number of those wooden gate boxes are rotting out?

[fol. 1798] A. I expect that is true. I think it is also true that a large number of them were in excellent condition and some of them had just recently been rebuilt.

Q. Well, those are always being rebuilt and replaced, aren't they?

A. Wooden gate boxes? No, sir; not always but frequently.

Q. The next classification of property is Compressing System Property. The Joshua station is the one you had the plans on yesterday, isn't it?

A. Mr. Connor had the plans on it yesterday.

Q. Turn to where that station shows in your exhibit.

A. It begins on page 205, Exhibit 37.

Q. One of the large items shown on this page is the compressor building, which you found to be in 90 per cent condition?

A. Yes, sir.

[fol. 1799]. Q. What notes did you make?

A. (Reading): "Compressor building, Ideco Steel, galvanized, not painted, 95 per cent."

Q. Are those all the notes on the compressor station building?

A. I want to see which building this one is now, for sure. That note is: "No. 2 Station, Compressor Building, steel, corrugated, galvanized, painted, 90 per cent."

Q. Is that the only note that you have on this building?

A. Yes, sir.

Q. How long has that building served at the Joshua Compressor Station?

A. I don't know.

Q. Well, it has been there ever since the station was built, hasn't it?

A. I presume so.

Q. Fifteen or twenty years?

A. No.

Q. Approximately how long?

A. Well, I don't know.

Q. You didn't build this compressor?

A. No, sir, and I don't know precisely when that station was built.

Mr. Griffith: Are you referring, Mr. Fitzhugh, to the No. 1 or the No. 2 station?

[fol. 1800] A. He is referring to the No. 1 station.

Mr. Fitzhugh: The No. 1, on page 205.

Q. On the main units you have found no per cent condition per unit, have you?

A. No.

Q. The units for this station alone amount to \$108,831.95?

A. That is correct.

Q. And that cost includes quite a number of engines, doesn't it?

A. It does.

Q. To all those engines you applied 92 per cent as the per cent condition?

A. Yes, sir, my notes read: "Compressors, 12 Coopers, 90 per cent; 4 Ingersoll-Rand Steel, 95 per cent." The notes read: "90 plus". I applied to the group, 92 per cent.

Q. On which, the Cooper units?

A. Numbers 1 to 12.

Q. Those are the ones that you found 95 per cent?

A. 90, plus, the notes read.

Q. And you got four other units that you found 95 per cent?

A. Yes, sir.

[Col. 1801] Q. So that the 92 per cent does not represent weighed per cent or a calculated per cent, but simply an assumed per cent?

A. Yes, based upon those two observations.

Q. Now, how could you tell the per cent condition of those engines?

A. Well, I am familiar with that class of machinery, from many years contact with it, and by looking it over I estimated the amount of loss in value and loss in condition that had occurred.

Q. Well, what did you do, just look at them?

A. Yes.

Q. Did you listen to them run?

A. Yes; looked at them and listened to them run.

Q. Well, now, what did you—just what sort of mental process did you go through, Mr. Biddison, to find the per cent condition?

A. Well, to begin with, on this class of equipment the parts which are subjected to loss in value comprise a comparatively small part of the total value of the equipment; for example, the fly-wheels and the main bed-plates suffer very little loss in value—very little deterioration; the parts which really do deteriorate are largely the moving parts, the bearings, the pistons, the guides, and, in addition, some of the small fittings and appurtenances. Now, some of [Col. 1802] that equipment can get into pretty low condition without affecting the over-all condition of an engine to a very great extent; and by looking over that equipment I formed my opinion of the total of deterioration or depreciation which had occurred on this equipment.

Q. Now, Mr. Biddison, this is a type of property you are supposed to be an expert—particularly expert on?

A. Yes.

Q. You know better than anyone else, probably, don't you, Mr. Biddison, that where a moving part of one of these engines is continually subjected to stress, that the actual wearing out and crystal-ization of the metal in the

part being placed under stress does not show on a visual inspection?

A. Perfectly well, yes, sir.

Q. That is, you might have a rocker-arm or some other part that has considerable stress placed upon it, that would look absolutely good up until the time that it snapped?

A. Yes, that sometimes happens.

Q. Isn't it true more with Compressor Station equipment probably than with any other class of property that the Company owns, that life studies properly made would [fol.1803] prove the best index in finding value as of any date?

A. Well, as a comparison that might be true, but then at the same time the life studies would not show you anything in the world about the condition.

Q. Take the bearings in those engines, Mr. Biddison, for example,—is there any way you could look at the bearings and tell what the condition of those bearings actually was?

A. Why certainly; and that is the only way you could tell what shape they were in.

Q. Did you look at the bearings in making your inspections?

A. Yes.

Q. Bearings are one of the parts of a machine that suffer from stress, are they not?

A. Very little.

Q. What are the parts that you would say would probably suffer most from stress?

A. The part that suffers most from stress in an engine is the piston rod.

Q. Now, in the case of the piston rod on all these engines, you simply ascertain its per cent condition along with the whole machine, didn't you?

A. Yes, sir.

Q. And you didn't give any particular consideration to [fol.1804] that part of the engine as distinguished from the other parts?

A. Yes, I did.

Q. I say you didn't separately find a separate per cent condition for the rods or the pistons, did you?

A. I did not, no, sir.

Q. In the hearing before the Railroad Commission, Mr. Steinberger testified that he took some of the machines and calipered the moving parts of the machines and found the

amount of wear and tear that had occurred on the moving surfaces. Did you avail yourself of that information?

A. I did not.

Q. Did you consult with any of the superintendents or men actually in charge of the operation of those machines, as to the life or as to the general condition of any of the machines operating any of the properties under their supervision?

A. Yes, I talked at every station I inspected with somebody who knew something about the particular engines at the location.

Q. In what way did you take that information into your per cent conditions as finally found?

A. Well, I don't know exactly what weight I gave to anything I got from those gentlemen.

Q. At any rate, you didn't give any weight to the length [fol. 1805] of time or the amount of service per machine?

A. Certainly not—certainly not.

Q. Now, the lowest per cent condition you found for any compressor station was about 82 per cent, wasn't it, or 80 per cent? I believe in one case it was 80 per cent, in the case of the Sipe Springs or the Tiffin Station?

A. Yes, that's the lowest.

Q. At the Caddo Station you found an 85.87 per cent?

A. That is correct.

Q. Did you know at the time that you applied that per cent condition to the Caddo Station, Mr. Biddison, that that station was gradually being abandoned, due to the depletion of the gas reserves in that section?

A. No; and it wouldn't have made any difference if I had—it wouldn't have changed the condition of that equipment one particle; if it were going to burn up by the next day it wouldn't have affected its condition to-day.

Q. It is true, is it not, that a number of these stations are being dismantled and moved?

A. Why, it is true that there is some slight rearrangement of compressor stations being made at various times. That does not affect their condition at all.

Q. So you don't think it makes a bit of difference in the value of a piece of property, such as a compressor station [fol. 1806] where a great part of the value of the property is in the foundations and appurtenant equipment—piping and so on, that that station is going out of service within

a short time, relatively, as compared to the date of your appraisal?

A. No, sir, I don't.

Q. The whole purpose of the thing is to find value, isn't it?

A. Yes, sir.

Q. How did you get the 93 per cent condition you found for the Office Building, on page 238?

A. By a general inspection of that office building. I am in that building quite frequently.

Q. Was that per cent condition given to you by somebody?

A. No, that is my determination.

Q. Did you consult with Mr. Dyer as to the per cent condition he found on the General Office Building when he made his inspection?

A. No, I didn't.

Q. Your per cent condition is, nevertheless, higher than the per cent condition Mr. Dyer found and testified to while he was on the stand, isn't it?

A. I don't recall what figure he gave.

Q. Where did you get your per cent condition for the General Office Furniture and Fixtures? Is that your own estimate?

[fol. 1807] A. Yes, sir.

Q. You do not claim to be any expert on the matter of furniture and fixtures, do you, Mr. Biddison?

A. Well, I don't claim to be an expert on it, but I am informed in regard to it.

Q. Well, you are no furniture man, are you?

A. No.

Q. Now, suppose you came to some piece of equipment—some office chair, such as this—that chair right there (indicating),—how would you go about finding the per cent condition of it?

A. By looking at it.

Q. What all did you take into consideration?

A. Its general condition.

Q. Well, did you take into consideration the style—the period of the furniture, or anything that would be connected with the obsolescence or its value as a fashionable piece?

A. No; that has got nothing to do with its condition; certainly, I wouldn't consider that in determining its condition.

Q. Well, does your per cent condition reflect only the wear and tear that the piece of furniture shows?

A. Yes, sir, it reflects just what it is labeled—"Condition".

[fol. 1808] Q. It does not reflect or attempt to reflect the obsolescence of the piece of furniture?

A. No.

Q. Or the lessening in value that may have occurred because the piece of furniture is no longer a fashionable piece?

A. That is correct. Those things are not items affecting the condition of property. They are items that affect the retirements of property, and affect the accruals that should be made for such retirements; but they do not affect the condition of the property.

[fol. 1809] Q. And in so making your valuation, Mr. Biddison, you have made it practically the same as assuming that there is no change in present value of furniture due to its obsolescence or to a change in fashion?

A. That is correct.

Q. If you came to the type of roll top desk that is no longer in fashion as office furniture, Mr. Biddison, you would have given that the same per cent condition that you would have given to a flat top desk or the type of desk now in vogue?

A. If they were in the same condition.

Q. If they showed the same wear and tear?

A. Yes, if they were in the same condition, I would have given them the same per cent condition figure, precisely.

Q. In other words, your per cent condition throughout your appraisal, whether it is applied to pipe, furniture or what not, reflects only wear and tear, doesn't it?

A. Yes, as it is meant to do, it reflects only the condition of the property.

Q. And not the lessening of value that may have come about from other causes than wear and tear?

A. That is correct, if there be any such.

Q. In the case of general tools, I believe you say that you made no particular examination of the tools, but simply applied some assumed conditions?

A. No, I said that with respect to certain items which on page 243 are marked with an E, that the figures are not the [fol. 1810] result of averaging up observations.

Q. Well, you did not make any observations at all, did you?

A. Yes I did, and specifically stated that I saw equipment in all these branches at various places.

Q. You saw the equipment but you did not make observations where you saw the condition of any particular tool?

A. I did not make notations, that is correct.

Q. So in all cases where you have an E marked there, you have an assumed per cent condition?

A. Yes, based upon having seen a great deal of the equipment and having made a great number of observations of it, but not based upon making a great number of notations. There is a difference in seeing things and making a note of what you see.

Q. Well, if you made a very large number of observations, you could not very well benefit by the observations you had made unless you made some notations.

A. Certainly.

Q. You carried all that stuff in your head, did you?

A. Yes.

Q. Going over four thousand miles of pipe line, every time you saw a tool you could remember what it looked like until you got back to the office, and gave it a per cent condition?

A. No; no such process as that whatever.

Q. Well, for example now, Mr. Biddison, you have a variation in the per cent conditions; the tools for the telephone system you put in at eighty per cent, and the tools for the pipe line, production and storehouse departments, at 75 [fol. 1811] per cent. How were you able to remember all those tools for the various departments, without making some notations on them?

A. It is simply the impression gained by having seen materials of these various classes at various points, all over the system.

Q. You do not claim this per cent condition you attribute to any of these classes is a very certain and exact finding of condition, do you?

A. Not of any such degree of accuracy as in those cases where I made notations, such as on pipe lines and structures. I do not claim it to be of any such a high degree of accuracy as that.

Q. In the automotive and the construction equipment account where you have \$423,717.85 worth of it-reproduction

value new, you have applied there a 65 per cent condition. How did you say you found that?

A. I have seen a great deal of this equipment along the line. I have had occasion to examine fleets of such equipment owned by others, time after time, both for purchase and sale, and by comparing this equipment with other equipment which I have at various other times examined in detail, it is my opinion that this equipment is on the average in about sixty-five per cent condition or higher.

Q. What would you say, Mr. Biddison, is the average age of these automobiles?

A. I don't know.

Q. Do you know how many miles on an average these [fol. 1812] automobiles have been run.

A. No, I do not. I have seen data on that as of this basic date, but I don't remember what it was now.

Q. Don't they average pretty close to 50,000 miles apiece?

A. No, my recollection was that it was a considerably less figure than that as of the date of this appraisal.

Q. Well, I will ask you this, Mr. Biddison: isn't it commonly known among automobile dealers that if you should buy a car today and put it on your garage floor, without running it a single mile, and hold it for a year there, its value will have faded away to the extent of about 35 per cent?

A. It will have very substantially declined, yes, if you should do that, so far as its tradein value is concerned, but I don't think its tradein value is necessarily a measure of its value.

Q. Well, you have been talking about the price that a buyer would pay to a seller. Just how did you take that into consideration if you did not take into consideration its tradein value or its sales value?

A. In the first place, I don't think that I have made any comment along that line.

Q. Didn't you say a moment ago that the price you applied in here, you considered, was the price that a buyer would pay for this equipment if it was offered for sale?

A. No, I didn't say that at all.

Q. Well then, you will agree, won't you Mr. Biddison, that the price you have given to these automobiles, trailers, trucks and so on, does not represent a price that a willing [fol. 1813] purchaser would pay?

A. No, I won't agree to that at all. Now, what I said while ago was that I had evaluated in detail aggregations of equipment of this nature, both for the purposes of purchase and for purposes of sale. Now I said I had done that, and that comparing this equipment with equipment which I had so evaluated in detail for purposes of purchase and sale, it was my opinion that this equipment was in 65 per cent condition.

Q. Well, suppose now, Mr. Biddison, that you knew that this \$170,000.00 worth of automobiles here would only bring you \$50,000.00 in the open market, or that you could buy similar automobiles to the ones that you have listed here for \$50,000. Would you still value them at \$170,000.00, minus 35 per cent, or would you value them at \$50,000.00?

A. If I could buy—go out and buy them for \$50,000.00, I would say that \$50,000.00 was their value.

Q. But you did not take their sales value or their trade-in value into consideration at all?

A. No, because their trade-in value does not to me indicate their value. In the first place, what you can go out and buy them in for, is not what you can go and trade them in for. There is a wide spread between those figures, ordinarily.

Q. And you disregarded, too, didn't you, the mileage on the automotive equipment?

A. No, I did not set up the condition based specifically on the mileage, but I have not ignored the mileage or the effects of mileage on the condition.

[fol. 1814] Q. You just said you didn't know what the mileage is.

A. That is correct, but I am judging from the effects that mileage would produce upon the equipment.

Q. Well, the company had records that show the exact mileage for each machine?

A. Yes, I have seen them.

Q. And the exact performance for ditching machines?

A. Yes, I have seen those too.

Q. But you did not use them, did you?

A. Not specifically, no.

Q. Did you use them at all?

A. I considered it, but I did not make a computation from that data, no.

Q. In finding your per cent conditions as applying to the general telephone system, did you make observations personally on these items of property?

A. Yes, I made the observations shown.

Q. In the matter of telephone poles—in looking at a telephone pole, Mr. Biddison, how would you go about deciding the per cent condition to apply to it?

A. Well, if a telephone pole looks like it was about half done for, I would consider it to be in about 50 per cent condition, and since that constitutes something like three-fourths of the total value of the line, that would mean a deduction of about one-half of 75 per cent, or about $37\frac{1}{2}$ per cent deduction from 100, on account of the poles.

Q. Did you in making your observations on poles scrape [fol. 1815] away any of the dirt from the base of the pole to find the rot of the pole underground, if any?

A. Yes. That rot as a general proposition, however, is more marked right at the surface of the ground than it is either just above the ground or below the surface of the ground. That is the point where rot usually occurs on telephone and telegraph poles, and also on fence posts.

Q. Now, on several of these lines; the poles are in pretty bad condition, aren't they, as to the rot near the surface of the ground at the base of the pole?

A. Well, some of them have some bad poles.

Q. Nevertheless the poles as they are included in your appraisal are in there at around ninety per cent condition, Mr. Biddison, are they not?

A. Some of them are and some of them are not.

Q. Well, the per cent condition on an average that you apply to all telephone lines was 89.55 per cent, was it not?

A. That is right.

Q. Well, aren't the poles in that?

A. Yes.

Q. In bringing forward to your summary sheet on page 1, you have \$13,928,816.00 worth of values which you have included at 100 per cent condition?

A. That is correct.

Q. And you are responsible for the application of that 100 per cent condition to those values, are you not?

A. I am.

[fols. 1816-1817] Q. The inclusion of these items at one hundred per cent condition raised your per cent condition

from 92.93 per cent on the physical property to 94.26 per cent, as applying to the whole property; is that correct?

A. That is correct.

Q. Could you say, Mr. Biddison, what the average life to be expected from all classes — property in the whole system of Lone Star Gas Company is?

A. No.

Q. Or in other words, how much longer the system as a whole could be expected to last?

A. Well, the system as a whole may be expected to last just as long as gas supplies may be found in reasonable distances from the existing system. Now it can be maintained forever, so far as the physical plant is concerned; and if they have gas supplies within reaching distance, they will undoubtedly maintain the system. There may be a time, however, under those conditions, when there will not be a piece of the property in the system which now exists.

Q. And although you have a property that has been in operation since 1909, and which was gradually built up from 1909 to the present time, you nevertheless find that that property is in 94.26 per cent condition as of this date, or as of the date of your appraisal?

A. That property and business, yes; and I might say further that that property will undoubtedly be maintained in a condition not very much below that, throughout its life.

[fol. 1818] Q. Before we leave the discussion of your exhibit on condition of property, I would like to ask you one more question on that, Mr. Biddison. What is the type of soil that seems to cause the most corrosion on pipe?

A. I have not attempted to make any determination of that. In some locations in black, waxy soil we find pipe that has been in for a number of years in excellent condition. On the other hand, in other location in black, waxy soil where there may be occlusions of gyp rock, we find serious corrosion of pipe that has only been installed a short time. I don't think that any general conclusion on that may be drawn. I don't think it is so much a matter of type of soil, as it is a question of the change of soil conditions from one location to another.

Q. By gyp rock, you mean rock that has a high alkaline content, do you not?

[fol. 1819] A. Yes. In other words, the sort of rock from which gypsum is made—rock containing gypsum.

Q. Where you find that type of rock you are pretty apt to find highly corrosive soil conditions?

A. That is not always true. I have found some locations where there was gyp rock present where the signs of corrosion were faint.

Q. Locations of that kind are where the soil is very dry; isn't that true?

A. No; peculiarly, I recall one inspection in which the soil was wet with gypsum present, and close to a gypsum factory, in which there was almost no signs of corrosion. It is not so much a question of the acidity or the alkalinity of the soil in a particular location, but of changes in that condition.

Q. A while back you furnished us a bunch of sheets showing on certain transmission lines, a certain percentage of hand and machine excavation, and the cost per hundred lineal feet. I believe this little pamphlet includes all of the lines, doesn't it?

A. It was intended to.

Q. All of the transmission lines?

A. Yes.

Q. A few days ago when you were testifying on the prices used in your inventory for excavation, or rather as applied to your appraisal, you testified that you used a cost of \$1.31 [fol. 1820] per cubic yard for hand excavation where there was more than 200 feet of trenching, and that you applied a cost of \$2.13 to stretches of trench of less than 200 lineal feet; is that correct?

A. Well, I don't think those figures are exact. They are close approximations by dropping decimals, and the figures varied somewhat as between Texas and Oklahoma.

Q. Well, what are the correct Texas figures?

A. On Transmission Lines in Texas, \$2.138 per cubic yard; and in Oklahoma \$2.0191 per cubic yard. That is for the short stretches. Now, for the long stretches, the figure for Texas is \$1.31, and for Oklahoma, \$1.28.

Q. Now, in general, Mr. Biddison, why is it you say you make that differentiation? Why is it you use one unit cost for the short stretches, and the other for the longer stretches?

A. Because on these short stretches the amount of work to be done in one location is comparatively small; and

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furthermore, the amount of work to be done at such locations as cannot be done by machine is ordinarily of a nature that is also difficult by hand—approaches to gullies and streams, and work of that nature.

Q. Now, as shown in your sheets, there is some 12-inch line on Line K-A, is there not?

A. Yes.

Q. The length of the 12-inch section of the line is 89,245 [fol. 1821] feet, is it not?

A. 87,975 feet of 12-inch pipe in Line K-A, as shown on page 2191 of Volume 4, Exhibit 28.

Q. Is that all of the 12-inch in Line K-A?

A. Yes.

Q. Now, that whole line is hand excavation, isn't it—either hand-earth or hand-rock?

A. It is.

Q. What price per cubic yard did you use for the hand-earth excavation?

A. \$2.083 per cubic yard.

Q. How did you find that \$2.008?

A. It seems to me it should be \$2.138.

Q. Now, there are 87,000 feet, of which 46.51 per cent is hand-earth?

A. Yes, sir.

Q. Why didn't you apply to this amount of hand-earth excavation the 1.31 cost per cubic yard which is supposed to apply to stretches over 200 feet?

A. Because this is mixed in with rock excavation, and over half the excavation is rock, and it consists of short stretches in connection with rock.

Q. Well, the stretches are over 200 feet, aren't they?

A. The bulk of them, or over fifty-three per cent, would be short stretches of less than 200 feet.

[fol. 1822] Q. How do you know the rock comes in intermittently—how do you know this per cent of rock excavation is not all in one batch?

A. I know it is not; but just exactly what the longest stretch of hand work is on there, I don't know.

Q. Now, the real reason that you apply in the stretches of less than 200 feet the two dollar price, instead of the \$1.31 price, is because you say it costs you more to move your men and equipment and all that sort of thing to inaccessible places, and for just short stretches. Now, if you have intermittent stretches of hand excavation, all being

done hand work, whether it is rock or earth, why shouldn't you apply the \$1.31 price on it.

A. Because the \$1.31 won't cover doing that kind of excavation work in any such manner.

Q. Well, the same men that do the earth excavation would do the rock excavation, wouldn't they?

A. No.

Q. Do you have a different crew for each?

A. Yes, sir; you certainly do. You would put a rock crew on your rock excavation with air compressors and dynamite.

Q. How long do you figure these rock stretches are?

A. Offhand, I don't know at this time.

Q. If you figure that the earth stretches are less than 200 feet, isn't it inevitable, out of 87,000 feet, of which 53.59 is rock, that you are bound to have some long stretches [fol. 1823] of rock?

A. I don't doubt it.

Q. Now, in the K-B 12-inch, where you have some 70,000 feet of line you show 56.35 per cent hand-earth, and 43.67 per cent hand-rock. For the hand-earth excavation on this line you likewise intended to use the \$2.13 cost per cubic yard, did you not?

A. I think the \$2.13 price on there would be justified. Apparently some consideration was given to the average length of these, and that figure is also at 2.083. Now, I don't find at once the set-up from which that is derived. It is in connection with the K section. That \$2.083 figure was also used on K-B-A-A.

Q. What is the length of that?

A. 5496 feet. K-B-A-B at 9,162 feet; and K-B-A-C—

Q. 23,000 on that, isn't it?

A. A little over. K-B-B, a little over 4,000 feet. Also on K-C-B, 13,580 feet; on K-C-D, 12-inch, 26,836 feet. K-C-D-A 6-inch, 3,153 feet; on K-C-E 10-inch, 30,082 feet; on K-C-E-A 10-inch, 14,991 feet; on K-C-F 10-inch 2,831 feet; on K-C-K 10-inch, 13,068 feet; on K-C-K-A 10-inch, 2,396 feet; on K-D 10-inch, 12,225 feet; on K-G, 6-inch, 16,659 feet; on K-H, 18,621 feet; on K-N 4-inch, 3,357 feet; on K-N 10-inch, 3,891 feet; on K-N by-pass, $6\frac{5}{8}$ inch, 9343 feet; on K-P 8 and 10-inch, 47,670 feet; on K-P-A, 6-inch, 4,232 feet.

[fol. 1824] Q. Now, the hand earth excavation on some of those lines you have named runs as high as 70 per cent,

doesn't it? For instance, on K C K A hand earth is 68.24 per cent?

A. K C K A hand earth excavation is 68.24 per cent.

Q. And all the rest of the excavation on this line is hand rock?

A. Yes, sir.

Q. Now, all these lines, Mr. Biddison, that run into hundreds of thousands of feet, in order to justify using the two dollar price you have used instead of the \$1.31 cost per cubic yard, you have to assume that all these little stretches of hand earth excavation are in less than two hundred foot batches, do you not?

A. In order to justify this figure—is that the question?

Q. Yes.

A. Substantially so, yes, sir.

Q. As a matter of fact that is not true, is it?—there are a lot of stretches of two hundred feet and over, some of them that run for a mile or over?

A. Well, there might be in some cases.

Q. Isn't it a fact that the stretches of hand excavation on all these lines, taking the whole thing, probably average about a thousand feet per stretch?

A. No, I think they will probably average around 100 or 150 feet per stretch.

Q. Well, if they did average as short a distance as that, Mr. Biddison, it simply means that they would have to alternate for, say, 150 feet of hand earth and 150 feet of solid rock?

[fol. 1825] A. Well, that is a degree of exactitude that I can't pass on.

Q. Well, do you have any data that has any exactness at all as to the length of these stretches of hand earth excavation on these lines?

A. Well, I do not have before me the data from which this is worked up. It shows in a great many cases what the lengths of these stretches were.

Q. Well, what were those sheets that you have before you now worked up from?

A. Well, these sheets I have before me now are the determination of the weighted cost per hundred lineal feet of excavation for these various lines.

Q. Well, you never have made a study, have you, Mr. Biddison, on your own account to find out the length of

these stretches of hand excavation or the amount of hand excavation on these lines?

A. No, not on my own account. I have studied some of the data collected by Mr. Steinberger of the relative machine and hand earth and rock excavation.

Q. Well, Mr. Steinberger's data didn't show the stretches of hand excavation by lines?

A. Well, the notes on these jobs and the maps from which the determination was made do show that data.

Q. What are the maps you are now referring to—the permanent maps that are a part of the company's records?

A. No, the maps on which the determination was made of the amount of machine and hand excavations.

[fol. 1826] Q. Did you study those maps?

A. Yes, I have.

Q. Which line did you study the maps for?

A. Well, I studied maps on quite a number of those lines. I can't state them offhand; it has been some time ago.

Q. On all these lines, Mr. Biddison, where you show any rock excavation, even where it is in such amounts as only one or two per cent, you have used for hand earth excavation a price per cubic yard in excess of two dollars, have you not?

A. No. Take Line K 5, where there is 9.54 per cent rock, there is no hand work whatever set up on that. That is true also of K-5-2.

Q. Well, the reason you didn't apply prices to hand earth was because there wasn't any hand earth on the line?

A. That is right.

Q. But I mean on all the lines where you have both hand earth and rock excavation you have applied for that hand earth a two dollar per cubic yard cost, have you not?

A. I think it is correct.

Q. And in all the lines where you have machine excavation of any amount together with hand excavation you have applied for that hand excavation a two dollar per cubic yard figure?

A. That is correct. That is correct in general. I think there may be some sections of some lines that were machine trenched on which the lower figure was applied, but in general on lines on which the job was a machine trenched job the higher figure has been applied.

[fol. 1827] Q. Well, can you point out, Mr. Biddison, any line that has got both machine and hand earth excavation where you failed to apply the two dollar figure?

A. Well, I would have to make an analysis of this to check that; I have not done so.

Q. Well, you know the method you used in all these things, don't you, Mr. Biddison?

A. Yes, but I don't know the variation from that method to suit the particular condition; I don't remember; this work has been some long time ago. I could make a search through here for it, but I can't point it out offhand.

Q. Now, these is between fifteen and twenty million feet of pipe in these lines, isn't there?

A. You mean in the pipe line system, in transmission lines?

Q. Yes, on all transmission lines?

A. Something on that order.

Q. And covered in these sheets you have here?

A. Yes, sir.

Q. Now, do you mean to say, Mr. Biddison, that in these fifteen to twenty million feet of line wherever there is machine rock excavation together with hand excavation that there are not long enough stretches of hand earth excavation anywhere in that large length of pipe line to justify the application of your \$1.31 cubic yard cost of hand earth excavation?

A. No, I don't mean to say any such thing as that, and have not said any such thing as that. I do mean to be understood, though, in making an estimate of this sort, that [fol. 1828] the application of these costs per cubic yard has been made on what I believe to be a rational basis and on the average properly applied. I have no doubt in the world that if one spent enough time in trying to get a higher degree of exactness in estimating that he would find that in some cases the price ought to have been higher and in some cases it ought to have been lower; I don't doubt that for a minute.

Q. But in all doubtful cases you have resolved it in favor of the higher price per cubic feet?

A. No. In every case there has been applied a figure to the particular line which under the conditions existing seems to properly fit the line.

Q. But in no case where there is a per cent of machine excavation or a per cent of hard rock excavation or hand earth excavation have you used the lower cost, have you?

A. I don't know without going through this. I think I have. I told you a while ago I could not answer the question without going through these sheets to point it out.

Q. Well, there are not many sheets—can't you make that examination now?

A. No, I can't make that examination in less than an hour and a half or two hours. I have got 158 sheets to analyze to answer the question.

Q. Without looking through any sheets at all, you know the general method you used?

A. Yes. I have explained it and think it is true, but I can't point to particular items to make an analysis with—[fol. 1829] out going through the 158 sheets before me.

Q. Now, on the lines where there is rock and machine excavation do you have any idea at all as to what the length of line on an average is for the machine excavation part?

A. On the average?

Q. Yes.

A. No.

Q. Or for the rock excavation?

A. No.

Q. And on the lines where there is hand earth excavation, for the hand earth excavation?

A. Yes; probably about 150 feet.

Q. Well, now, how does it happen that you are able to give us that figure without being able to give a figure for the machine work?

A. Well, I know how those skips come in actual operation. Therefore I know how long they are. Now, the average length of machine work on a stretch would depend upon how long the pipe line was. It might be anywhere from a half a mile to twenty miles.

Q. And the same thing would be true of hand excavation, wouldn't it?

A. Why, no, not at all. The hand excavation would be in those short skips.

Q. Can you refer to those sheets before you, Mr. Biddison, to find out if there are not some lines listed here where there is hand earth excavation and rock excavation in which

[fols. 1830-1834] the hand earth excavation exceeds one-half of it?

A. No; my sheets do not show that information. Therefore, reference to them for information on that point would not reveal anything. That information would have to go back to the notes gotten in the field on those lines.

[fol. 1835] E. A. STEINBERGER, recalled as a witness on behalf of defendant, testified as follows:

Direct examination.

Questions by Mr. Griffith:

Q. Mr. Steinberger, are you familiar with workmen's compensation insurance and public liability rates applicable to Cross Country Pipe Line Construction and the construction work such as would be encountered in the reproduction of the Lone Star Gas Company's public service property?

A. I am; I keep myself constantly informed on that matter.

Q. Is that a matter which has considerable bearing upon construction costs?

A. It certainly has.

Q. Have you prepared in form to be introduced as an exhibit in this case a compilation showing workmen's compensation and public liability rates as used by the Railroad Commission of Texas in connection with its evaluation of the Lone Star Gas Company public service plant and property, and such rates as were in effect on January 1, 1933, the date as of which Defendant's Exhibit 28—an appraisal—was prepared, and also the rates which are currently in effect?

[fols. 1836-1839] A. I prepared such an exhibit, yes, sir.

Q. Will you produce it, please? (Witness hands document to counsel). Is this the compilation to which you refer?

A. It is.

Mr. Griffith: We offer the exhibit so identified by the witness in evidence.

[fol. 1840] (Thereupon the above document was marked as Defendant's Exhibit No. 38.)

Q. What first appears at the top of that page, in so far [fol. 1841] as a change in insurance rates is concerned?

A. It says: "Comparison of public liability and workmen's compensation insurance as adopted in 'Railroad Commission of Texas, Gas Utility Docket No. 75, Order of September 13, 1933' and rates in effect as of January 1, 1933 and May 1, 1934."

Q. Now, Mr. Steinberger, the Railroad Commission valued the public service plant and property of Lone Star Gas Company as of December 31, 1931, isn't that correct?

A. That is correct.

Q. And the insurance rate used by the Commission in its findings and valuation was properly taken at \$6.18 per \$100.00 of payroll?

A. That is correct.

Q. There is no question here—

A. That is, \$6.18 for workmen's compensation insurance.

Q. Yes, sir. There is no question here as to the propriety of the application of that rate as of December 31, 1931, is there?

A. No, sir.

Q. That was the rate actually paid by the Company?

A. That was the rate actually paid by the Company, and used by the Company in its determination of unit costs as of December 31, 1931.

Q. But was there an increase in workmen's compensation [fol. 1842] rates from December 31, 1931, to January 1, 1933?

A. There was, as far as the State of Texas is concerned. In the State of Texas the workmen's compensation insurance rate per \$100.00 of payroll as of January 1, 1933, increased to \$8.31 from the rate in effect December 31, 1931, and adopted in the Railroad Commission's order, and which rate was \$6.18, or an increase of \$2.13 per \$100.00 of payroll.

Q. Now, in the order of the Railroad Commission or in its findings of the value of Lone Star Gas Company's property as of December 31, 1931, did it use and adopt for the State of Oklahoma a workmen's compensation rate of \$6.18 per \$100.00 of payroll?

A. It did.

Q. What was the trend of insurance rates in so far as workmen's compensation was concerned in the State of Oklahoma from December 31, 1931, up to the present time?

A. The workmen's compensation rate per \$100.00 of payroll for the State of Oklahoma decreased to \$5.34 as of January 1, 1933, from \$6.18 as adopted in the Railroad Commission's order and used also by the Lone Star Gas Company in the evaluation of its public service property as of December 31, 1931, which amounted to a decrease of 84 cents per \$100.00 payroll.

[fol. 1843] Q. Now, Mr. Steinberger, in so far as the public liability insurance is concerned, in the State of Texas and in the State of Oklahoma what happened to those rates from December 31, 1931, up to the present time?

A. The public liability insurance rates in the State of Texas were on December 31, 1931, and adopted in the Railroad Commission's order, \$4.71—no, \$.471 per \$100.00 of payroll; those rates decreased to \$.170 per \$100.00 of payroll, as of January 1, 1933, and increased to \$.731 per \$100.00 of payroll as of May 1, 1933—1934, that should be.

Mr. Griffith: Mr. Reporter, the witness says there should be a correction made on the exhibit, under subparagraph C of Public Liability \$20/40,000 limits in the State of Texas, the date being May 1st, 1934. Will you make the correction, please, in the file copy?

The Reporter: Yes, sir.

(The correction above referred to was thereupon made in the file copy of the exhibit, as requested.)

Q. In other words, from December 31, 1931, to May 1st, 1934, there was an increase of 26 cents per \$100.00 of payroll covering public liability insurance in the State of Texas?

A. That is correct.

[fol. 1844] Q. Now, what was true in connection with public liability insurance in the state of Oklahoma?

A. Public liability insurance in the State of Oklahoma based upon twenty and forty thousand dollar liability, and the rate as adopted by the Railroad Commission's order, and also used by the Lone Star Gas Company in the evaluation of its public service property as of December 31, 1931, was 47.1 cents per hundred dollars; as of January 1, 1933,

that rate decreased to 25 cents per hundred dollars; but increased to \$1.343 as of May 1, 1934, or an increase of 87.2 cents per hundred dollars between December 31, 1931 and May 1, 1934.

Q. Now, the combined workmen's compensation and public liability insurance for the State of Texas increased from December 31, 1931 up to the present time in what amount?

A. Combined workmen's compensation and public liability insurance per hundred dollars payroll for the State of Texas increased between December 31, 1931 and May 1, 1934, in the amount of \$2.39 per hundred dollars payroll; and for the State of Oklahoma it has increased as of December 31, 1931, from \$6.651 to \$6.683 as of May 1, 1934, or 3.2 cents per hundred dollars of payroll.

Q. Now, are all of the rates shown in Defendant's Exhibit 38 on pages 1 and 2 thereof to be in effect as of May 1, 1934 in effect at this time, that is June 28, 1934?

A. They are in effect at this time due to the fact that I [fols. 1845-1846] have not been furnished any additional information from our insurance company.

Q. Mr. Steinberger, have you prepared in exhibit form to be introduced here a compilation showing the difference in pipe prices as used by the Railroad Commission of Texas in its finding and order in Gas Utilities Docket No. 75 and the prices which prevail as of this time?

A. I have prepared such an exhibit.

Q. Will you produce it, please?

A. Yes, sir.

Q. Is this the compilation to which you refer, being styled on the title cover, "Lone Star Gas Company, Comparison of Steel Pipe Prices and Dresser Couplings, E. A. Steinberger, Valuation Engineer, Dallas, Texas, June 11, 1934?"

A. Yes, sir.

Mr. Griffith: We offer the exhibit so identified by the witness in evidence.

(Thereupon the document referred to above was marked for identification as Defendant's Exhibit No. 39.)

Mr. Griffith: Do you want some time to look it over, Mr. Fitzhugh?

Mr. Fitzhugh: Yes, sir. * * * We object further because this attempts to take prices or to state prices and quotations as shown by the N. R. A. Code of

June 11, 1934, Code Number 1116-02, because the Code itself is the best evidence, and the prices contained therein as to that extent are bound to be hearsay. We object for the further reason that it is purely argumentative and proves nothing, has no probative force, and is purely prejudicial.

The Court: I do not find anything in here showing it was priced by the N. R. A. Code. It simply states, "Covered by N. R. A. Code."

Mr. Fitzhugh: It says quotations based on N. R. A. Code.

The Court: It says, "Covered by N. R. A."

Mr. Griffith: Yes, sir; it says, "Covered by N. R. A. Code 1116-02."

The Court: Now, I told you gentlemen that we are not trying this lawsuit according to the N. R. A. Code. I sustained an exception to the pleadings on that point, so we don't want to bring the N. R. A. in here.

Mr. Griffith: If the reference is made to page 1, it will be noted it states, "As quoted by Pipe Mills, June 11, 1934; Covered by N. R. A. Code 1116-02."

Mr. Fitzhugh: One additional ground of objection: the footages per lineal feet of pipe of various sizes as shown [fol. 1848] in this exhibit contain also in addition to the pipe used in intrastate business in Texas the pipe used in interstate commerce in Oklahoma, and we object to the total feet of both the interstate and intrastate property being shown. I think there should be a segregation as to intrastate footages in Texas?

The Court: Let me ask you this question, Mr. Fitzhugh: Could the pipe in Texas be interstate?

Mr. Fitzhugh: It might be interstate in Texas, but not in any consistency with our theory of the case. We take the position that all Texas property is in intrastate business.

The Court: With the understanding we have had, I overrule the objection.

Mr. Griffith: I regret that the words "N.R.A." were used in here. I understood the Court's ruling; but the witness in the preparation of the exhibit wanted to make a reference to the complete source from which the material was obtained. If the Court desires, the N.R.A. reference will be stricken out.

The Court: Suppose we have it understood here that the N.R.A. part will not be considered by the jury at all.

Mr. Fitzhugh: Note our exception.

Mr. Stout: That N.R.A. is just a back-hand method of getting in here what the Court has previously ruled out. [fol. 1849] The Court: They explained that this was made ahead of time, and they agreed that you may run a line through it.

Mr. Stout: But they bring it in here, and it has no business in that exhibit.

Q. Refer please to Defendant's Exhibit 39. This exhibit shows not only comparison of the steel pipe prices, but a comparison of the Dresser Couplings prices as adopted and used by the Railroad Commission of Texas in its determination and evaluation of the property as of December 31, 1931, and the prices which prevail as of this date?

A. That is correct.

Q. Refer please to page 1 of the Exhibit. Except in respect of 8 $\frac{5}{8}$ inch pipe listed at the bottom of that page, was there a substantial increase in respect of all other sizes of pipe listed on the page?

[fol. 1850] A. There has been a substantial increase as indicated in the last column—column 8—headed "Difference".

Q. Take a few typical examples, Mr. Steinberger, and point them out where there has been some drastic changes in price?

A. The first item being a 20-inch, A. O. Smith weld pipe, and having a weight of 59.230 pounds per foot, the price as used and adopted in the Railroad Commission of Texas Gas Utilities Docket No. 75, opinion and order of September 13, 1933, is \$1.8646; the price as quoted by the mill, f.o.b. mill, as of June 11, 1934, is \$2.1660 per foot, there being a total of 536,523 lineal feet of that pipe, amounting to a net increase of \$161,708.04.

Q. Now, Mr. Steinberger, the largest amount of 20-inch pipe of the Company—of A. O. Smith weld pipe—is found in the line 2nd B extending from Petrolia to a point between Dallas and Fort Worth?

A. That is correct.

Q. And the increase in the—or the difference between the price used by the Railroad Commission in its evaluation of that pipe, and the price current on that pipe in that line alone amounts to \$161,708.04?

A. Yes, sir.

Q. Now, refer please to the 18-inch pipe, weighing 53.223 pounds per foot. Has there been a considerable increase in the price of that pipe over the price as used by the Railroad Commission in the evaluation of the property?

[fol. 1851] A. Yes, sir; there has been an increase from 1.4078 to 1.8498, or an increase of 44.2 cents per lineal foot.

Q. Expressed as a percentage, what is that?

A. Approximately 24 per cent increase.

Q. Now, Mr. Steinberger, take the 16-inch pipe, weighing 47.215 pounds per foot, has there been a considerable increase in the price of that pipe over and above the determined price as set by the Railroad Commission in its evaluation of the property?

A. There has been an increase from 1.2491 to 1.6017 per lineal foot.

Q. And as applied to the total amount of pipe in the system of the Lone Star Gas Company—that is, pipe of that particular size and weight—does that account for an increase of \$255,854.32?

A. That is correct.

Q. In connection with the 10 $\frac{3}{4}$ inch pipe, weighing 31.445 pounds per lineal foot, is there a sizable amount of that pipe in the system?

A. There is a total of 1,917,929 lineal feet of that pipe in the system as of December 31, 1931.

Q. Now, the Railroad Commission of Texas in its evaluation of the property used what price per foot for that pipe?

A. They used a price of \$.7693 per lineal foot.

Q. And what is the price prevailing as of this date?

A. The price quoted to me as of June 11, 1934, is \$.8944 per lineal foot.

[fol. 1852] Q. Now, Mr. Steinberger, throughout Defendant's Exhibit 39 have you applied prices covering large lot purchases?

A. I have.

Q. This increase from 76.93 cents to 89.44 cents per lineal foot is how much of an increase?

A. It is an increase of \$239,932.92.

Q. As applied to all of the pipe of that character in the system as of December 31, 1931?

A. That is correct, as applied to the 10 $\frac{3}{4}$ O.D. 31.445 pounds per lineal foot pipe.

Q. Mr. Steinberger, on page 2, of Defendant's Exhibit 39, is it shown that the Company has in its system a very

sizable amount of 6-inch pipe weighing 18.974 pounds per lineal foot?

A. Yes, sir; there was as of December 31, 1931, 2,525,456 lineal feet of 6-inch, 18.974 pound per foot plain end single random length pipe in the system.

Q. Now, what was the price at which the Railroad Commission evaluated this pipe?

A. The Railroad Commission of Texas evaluated this pipe at 40.82 cents per lineal foot.

[fol. 1853] Q. What is the current price as of this date?

A. The price current as of June 11, 1934, is 51.48 cents per foot.

Q. Representing how much increase over the Commission's price?

A. An increase of 10.66 cents per lineal foot, or a total of \$269,213.61.

Q. Now, over all do you show on page 2 of Defendant's Exhibit 39 that the price current as of this date on the steel pipe in the Lone Star Gas Company system was \$3,007,-785.02 over and above the price at which that pipe was evaluated by the Railroad Commission of Texas in Gas Utilities Docket No. 75 and its finding and order dated September 13, 1933?

A. That is correct; and in that connection that increase is based upon the quantities per lineal foot of the Lone Star Gas Company system as of December 31, 1931, or as adopted by the Railroad Commission's order.

Q. On page 3 do you show a change in prices on threaded and coupled pipe?

A. I do.

Q. As between the prices used by the Railroad Commission of Texas in its opinion and order dated September 13, 1933, in Gas Utilities Docket No. 75 and the prices which are current as of this date?

A. That is correct.

Q. Showing a total difference or an increase in price as of this date in what amount for the various sizes of pipe?

A. For the various sizes, being a total of \$2,441,437 lineal feet as of December 31, 1931, applying the prices as of June [fol. 1854] 11, 1934, amounts to an increase of \$174,038.96.

Q. Now, Mr. Steinberger, taking the plain end pipe and the threaded and coupled pipe, what is the grand total of the increase in price as of this date over the pipe prices

used by the Railroad Commission in its opinion and order heretofore referred to?

A. That figure is found on page 3 of Exhibit 39, the last item under column 8, in the amount of \$3,181,824.88.

Q. Now, Mr. Steinberger, what have you set forth on page 4 of this exhibit?

A. Page 4 is a comparison of dresser coupling prices as adopted in Railroad Commission of Texas Gas Utilities Docket 75, opinion and order of September 13, 1933, and as quoted June 11, 1934. Column 1, sizes of couplings; column 2, quantities in the Lone Star Gas Company system as of December 31, 1931; column 3, unit cost as adopted by the Railroad Commission of Texas; column 4, total amount, that being the unit cost multiplied by the quantities; column 5, unit cost per dresser coupling quoted to me June 11, 1934; column 6 being the amount of column 2 multiplied by column 5, and column 7 being the difference between the amount shown in column 4, the total amount adopted by the Railroad Commission of Texas in its opinion and order, and the total value of dresser couplings as of June 11, 1934.

Q. Summarizing your testimony, Mr. Steinberger, is it then true as reflected by Defendant's Exhibit 39 that in steel pipe dresser couplings alone the prices current as of [fol. 1855] this date are \$3,400,000 in excess of the prices which are applied by the Railroad Commission of Texas in its opinion and order to the public service plant and property of Lone Star Gas Company?

A. That is correct, Mr. Griffith, the exact amount being \$3,409,626.91. That amount is based upon the quantities of material—that is pipe dresser couplings—as of December 31, 1931.

Q. Mr. Steinberger, has there been any increase in labor prices since December 31, 1931, in respect to rates of pay—hourly rates of pay?

A. Yes; there has been an increase in the hourly rate of pay of common laborers.

Q. From what price to what price?

A. From 35 cents per hour to 40 cents per hour, which the company is paying and has been paying since September, 1933.

Q. And that is the current price or going wage for labor costs since September, 1933?

A. That is the current wage now being paid by the company for common labor.

Q. Now, Mr. Steinberger, since Defendant's Exhibit 28 was prepared, your exhibit would indicate that there have been sizable increases in rates of pay for labor, workmen's compensation and public liability insurance rates, in prices for steel pipe dresser couplings?

A. That is correct.

Q. In order that those prices which have increased, covering those items, may be applied and utilized in connection — Defendant's Exhibit 28, have you prepared a compilation in form to be introduced as an exhibit here, reflecting those increases in prices and showing the effect thereof on the total evaluation based on reproduction cost new as set forth in Defendant's Exhibit 28?

A. I have.

Q. Is this the compilation to which you refer, Mr. Steinberger, being styled on the title cover "Lone Star Gas Company—Appraisal—Cost of Reproduction New—May 1, 1934—Public Service Plant, Property and Business"?

A. It is.

Q. "E. A. Steinberger, P. McDonald Biddison, Ed C. Connor, Engineers, Dallas, Texas"?

A. It is.

Mr. Griffith: We offer the compilation so identified by the witness in evidence.

Mr. Stout: Your Honor, for the purpose of the record, we object to it because there is no segregation shown as between Texas and Oklahoma. That is true?

The Witness: That is correct.

The Court: The objection is overruled.

Mr. Stout: Note our exception.

.(Thereupon the compilation above referred to was marked as Defendant's Exhibit No. 40.)

[fol. 1857] Q. Now, Mr. Steinberger, please relate to the jury in a general way the method that was adopted in the preparation of this exhibit in the matter of applying the increase in prices covering labor rates, workmen's compensation and public liability insurance rates, current prices for steel pipe and dresser couplings to the appraisal which we know in evidence here as Defendant's Exhibit 28.

A. In the preparation of Defendant's Exhibit 40 I merely attempted to re-work or apply the current rates of pay for common labor, namely, forty cents per hour, as well as

present prices for items entering into the so-called Transmission Line Equipment, that classification of property constituting approximately 70 per cent of the total value of the physical property as set forth in Defendant's Exhibit 28.

Q. You have not attempted to incorporate in this exhibit any small increase which might have taken place like a few thousand fittings in the property, or other miscellaneous items of property; such as lumber, brick or anything of that sort?

A. I have not; and by reference to page 7 of Exhibit 40, which is a comparative statement of the reproduction cost new as of January 1, 1933, and May 1, 1934, of the Transmission Line Equipment, it will be noted that the last item on that page, being Miscellaneous, which item covers small fittings and other items, such as gate boxes, bridges and so forth, I have used the same figure of May 1, 1934, evaluation [fol. 1858] as found for January 1, 1933. Under the first item found on that page, being pipe, f. o. b. Railroad Siding, it will be noted that the price as of January 1, 1933, is \$20,954,471.01, as against May 1, 1934, which price is \$22,060,123.55, or a difference of \$1,105,652.54, or, in other words, an increase in price of pipe f. o. b. railroad siding between January 1, 1933, and May 1, 1934. Now, referring to the previous exhibit—Defendant's Exhibit 39—which brought the price of pipe down to June 11, 1934, this figure should be corrected in the amount of approximately \$309,693.44.

Q. Now, Mr. Steinberger, as of May 1, 1934, what discount were the mills allowing for cash in large purchases of steel pipe?

A. As of May 1, 1934, the mills were allowing one-half of one per cent for prompt payment or cash.

Q. As of June 11, 1934, what were the mills allowing for prompt payment for cash discount?

A. As of June 11, 1934, the mills allowed two per cent for cash or prompt payment.

Q. Therefore, to the prices as set forth on page 7 of Defendant's Exhibit 40, in the amount of \$22,060,123.55, covering the cost of pipe as of May 1, 1934, there should be applied an additional discount of one and a half per cent?

A. There should be applied an additional discount of one and a half per cent to the f. o. b. mill price.

Q. The price quoted here is the price f. o. b. railroad siding from which the pipe would be hauled and strung?

A. That is correct. Now, under construction cost, the [fol. 1859] difference of \$352,574.45, being an increase based primarily upon the common labor rate of 35 cents per hour paid as of January 1, 1933, and the common labor rate of 40 cents per hour paid as of May 1, 1934, with a fractional increase in the workmen's compensation and public liability insurance, resulting in a total cost of pipe in place as of January 1, 1933, of \$27,941,145.35 as against May 1, 1934, in the amount of \$29,399,372.34, or an increase over the January 1, 1933, evaluation in the amount of \$1,458,226.99. The next item, being the cost of welding, the evaluation as of January 1, 1933, being \$1,282,324.76, and as of May 1, 1934, giving effect to the increase in the rate of pay to common laborers from 35 to 40 cents, is \$1,273,603.44, or a decrease as compared with January 1, 1933, in the amount of \$8,721.32, that decrease being due solely to a decrease in the prices of materials used in the welding of lines, such as acetylene, carbide and oxygen. The next item, being Dresser Couplings, the evaluation for this class of property as of January 1, 1933, is \$1,570,440.29, and as of May 1, 1934, \$1,700,316.34, or an increase over January 1, 1933, in the amount of \$129,876.05, amounting to a total evaluation of the Transmission Line Equipment as of January 1, 1933, in the amount of \$31,894,439.40. The evaluation as of May 1, 1934, giving effect to the various increases and decreases heretofore testified to, is \$33,473,821.12, or an increase over the January 1, 1933, evaluation in the amount of \$1,579,381.72.

[fol. 1860] Q. Now, on the following pages—that is, pages 8 and 9—have you shown a detail of the reproduction cost new, January 1, 1933, of the various pipe line systems, commencing with "A" and ending with the T. P. U. system?

A. That is correct. Pages 8 and 9 set forth in detail various classifications entering into the Transmission Line Equipment. Page 6 is a comparative summary of the total reproduction cost new segregated by the various systems entering into the Transmission Line Equipment of the Lone Star Gas Company system.

Q. Now, having determined that the direct structural costs of the property in connection with the Transmission Line Equipment had increased to the extent to which they

have increased, did you then make an application of those increased costs as of May 1, 1934, to the public service plant and property as of January 1, 1933, and as set forth in Volumes 1 to 8, inclusive, of Defendant's Exhibit 28?

A. That is correct.

Q. Refer, please, to the summary in the fore part of Volume 1 of Defendant's Exhibit 28. What does it show as the grand total of the reproduction cost new of the public service plant, property and business of the company as of January 1, 1933?

A. It shows a total evaluation of \$73,983,405.57.

Q. And as reflected by page 1 of Defendant's Exhibit 40, is that amount increased to \$75,562,787.25 by reason of these increases in labor costs, workmen's compensation and public liability insurance, and the increase in price for steel [fol. 1861] pipe and dresser couplings?

A. That is correct.

Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Steinberger, you have in front of you, do you not, the order of the Railroad Commission in Gas Utilities Docket No. 75?

A. I have.

Q. Will you refer to that order and turn to the page and cite to the jury the line wherein you find that the Railroad Commission took \$6.18 as workmen's compensation insurance rate per hundred dollars of payroll?

A. Mr. Fitzhugh, that figure does not appear anywhere in the Railroad Commission's order, but due to the fact that the evaluation used by the Railroad Commission is based on the unit cost as used by Mr. Connor and myself in the valuation of the public service property of Lone Star Gas Company as of December 31, 1931, the Commission adopted the units used by us.

Q. Will you cite the page in the opinion and order that indicates that the Commission adopted \$6.18 per hundred dollars of payroll?

A. It does not so appear, but the unit cost used by Mr. Connor and myself was adopted by the Railroad Commission.

Q. Point out where the Railroad Commission adopted any of your unit prices for the purpose of getting this in-

[fol. 1862] surance rate—refer to the order and pick out, for instance, on excavation, which is one of the bigger items in the appraisal, findings of the Railroad Commission that would show that they took \$6.18 per hundred dollars of payroll on workmen's compensation insurance?

A. That is correct, possibly. On excavation and backfill the Railroad Commission did not adopt our unit cost, but if you refer to pages 14 and 15 of the Railroad Commission's order—

[fol. 1863] Q. Well, wait. Now, on this excavation, isn't that about the biggest single item in the thing, so far as labor is concerned?

A. That is correct.

Q. Now, what did the Railroad Commission use for excavation as applied to the labor for excavation for workmen's compensation insurance per \$100.00 of payroll, as shown by the Commission's order?

A. The Commission's order does not give a breakdown of that item.

Q. Now, you referred to something else where the Commission's order does give a basis for your \$6.18, did you not?

A. Mr. Fitzhugh, I am referring to the fact that the Commission adopted our unit costs, and in adopting one set of unit costs they adopted one rate of insurance, and in adopting another set of unit costs they adopted another rate of insurance.

Q. All right. Now, read the passage you started to read a minute ago.

A. Pages 14 and 15, for instance under the item of Other Transmission System Land, Including Improvements, the Commission adopted the figure found by Mr. Connor and myself; on Other Transmission System Leaseholds, Including Improvements, the Commission adopted the same figure—

Q. Now, wait—wait. Take one at a time. As to the Land, is there any labor on the land?

A. No; no labor.

Q. There is no workmen's compensation insurance in connection with land, is there?

A. No, but on improvements—

Q. All right. Now, what is there said about improvements to show what unit costs the Commission adopted?

A. They adopted our figures as set forth in Exhibit 6, page 873. And in connection with Other Transmission System Leaseholds, Including Improvements, Exhibit 6, page 883, [fol. 1865] and Transmission System Measuring Station Structures; Exhibit 6, page 898.

Q. Now, are you through?

A. No, I can cite you a dozen more items, Mr. Fitzhugh.

Q. Well, to get the workmen's compensation insurance rate you had to dig back into your own appraisal and hunt up your own insurance rates, didn't you?

A. No, sir.

Q. Well, does that order show any rate that the Commission adopted for insurance?

A. It does not, but it shows they adopted the insurance rates included in the valuation as made by Mr. Connor and myself.

Q. Well, in order to find this \$6.18, you had to go back and dig into your and Mr. Connor's insurance rates, didn't you?

A. I went through Mr. Connor's and my insurance rates, yes.

Q. And that is where you got this figure of \$6.18 that you say the Railroad Commission found.

A. They adopted our figure. By adopting the total valuation on one item they automatically adopted that insurance rate.

Q. Why, Mr. Steinberger, don't you know, as a matter of fact, as shown by the order of the Railroad Commission [fol. 1866] right there in front of you, that what the Railroad Commission adopted was the final valuation and the result of the—

A. The exact valuation adopted by Mr. Connor and myself, yes, sir.

Q. And they might have thought it was too high on some of the things that went to make that final cost and too low on the others; but the only thing they adopted was the final result, isn't that true?

A. They adopted the result, yes, Mr. Fitzhugh; that is correct.

Q. Now, you don't know from that whether they took insurance rates at one rate or another, do you?

A. Well, no, I don't know whether they went ahead and didn't use any insurance rate at all, and added the difference on the value of the land.

Q. The Railroad Commission listened to testimony for eight months, didn't it, for various witnesses?

A. Ask the question again.

Q. Now, all that order shows is that for certain types of property they took a certain amount, and that coincides with the amount shown by your appraisal, isn't that right?

A. That is correct.

Q. Now, is there anything in the Commission's order to show what they undertook to decide was a correct insurance [fol. 1867] rate, if they did decide that.

A. The Commission's order does not specifically set forth the exact rate of insurance that was adopted by them, but in numerous cases throughout their opinion they have used the identical over-all costs arrived at by Mr. Connor and myself.

Q. Isn't it a fact, Mr. Steinberger, that there is not a single sentence or phrase in the whole order that makes any mention of workmen's compensation insurance rate per \$100.00 of payroll?

A. It doesn't mention the rates used, but I can cite you hundreds of instances where the Commission adopted our unit costs or our over-all costs for certain classifications of property.

Mr. Griffith: And which unit costs included this \$6.18 per \$100.00 of payroll as the cost of workmen's compensation insurance?

A. Yes, sir, that is one of the bases of our unit costs.

Q. Now, I will ask you this question, if during the progress of the hearing before the Railroad Commission it wasn't testified to before the Commission by yourself that the per \$100.00 of payroll had gone up, and was over and above the \$6.18?

A. It went up on January 1st, 1933, and I understand that during the long period of my cross examination it had in [fol. 1868] creased even at that time.

Q. That was in testimony before the Railroad Commission, wasn't it?

A. Yes.

Q. And if the Railroad Commission had adopted your figures they would have adopted the higher rate that you testified to, wouldn't they?

A. If they would have adopted the higher rate they would have gotten a different figure for certain items and classifications of property than those set forth in their opinion.

Q. By the time we had gotten through that eight months hearing there were other things that had gone down in price—that is a fact, is it not, and was testified to at the hearing?

A. That may be true, yes.

Q. Where you find public liability rates as shown in your exhibit which you say comes from the Railroad Commission, you did the same thing, didn't you—that is, you went back into yours and Mr. Connor's appraisal and dug out whatever insurance rates were used in that appraisal, and said then that the Railroad Commission had used those?

A. Well, I didn't have to dig them out; I knew them by heart.

Q. Well, that's the source of them, isn't it?

[fol. 1869] A. That is correct.

Q. You didn't get that from the Railroad Commission's order?

A. No, sir, it doesn't appear there, but the final answer I got from the Railroad Commission's order.

Q. And on this item, just as well as on the workmen's compensation insurance, it is a fact that there were some things that went up and some things that went down, and the facts as to those prices were in evidence before the Railroad Commission during that eight months hearing?

A. There has been a fluctuation in prices, yes.

Q. And all that they took was the final result on the class of property? You don't know whether they took a certain insurance rate or not, do you?

A. No, I don't. All I know—

Q. As to public liability—

A. All I know is that they got the same figure as Mr. Connor and I did; in fact, they got the exact figure Mr. Connor and I arrived at in the development of our unit costs.

Q. Now, on excavation, which you admit, Mr. Steinberger, has the most labor of anything in the appraisal,—you know very definitely that the Railroad Commission did not accept your and Mr. Connor's unit prices, do you not?

[fol. 1870] A. They didn't adopt it on excavation and backfilling, but they adopted our unit cost on hauling and

stringing, on welding, and on laying and testing, on aligning for welding—all these unit costs carried the insurance rates that I testified to before, of \$6.18 for workmen's compensation and \$.471 for public liability.

Q. The Railroad Commission adopted—refused to adopt your cost on hauling, did it not?

A. They adopted my basic cost on hauling, and only decreased the ten per cent contingencies which I had; but my basic cost for hauling included \$6.18 for workmen's compensation insurance.

Q. But there is no human being, including yourself, Mr. Steinberger, is there, that knows what their insurance rates were?

A. Well, at what time—when?

Q. As found in the Railroad Commission's order, and as applying to excavation.

A. They are not set forth, Mr. Fitzhugh, in the Railroad Commission's order, but if the Railroad Commission adopted our unit costs it must have used the same insurance rates.

Q. Well, that is what you say. That is not what the order says, is it?

[fol. 1871] A. The order adopts our figure—

* * * * * * *

[fol. 1872] Q. Now, Mr. Steinberger, I will ask you this question, are you willing to state under oath that there is a single statement anywhere in the Railroad Commission's order that would allow you with certainty to find anywhere the rates for insurance that they used, if they used any?

A. Mr. Fitzhugh, there is no such statement—that is, the exact rate of insurance as used by the Commission, set forth in their opinion; but in view of the fact that they have adopted the identical figure for certain costs and certain classifications of property as found by Mr. Connor and myself, where we have used that insurance rate of \$6.18 for workmen's compensation and \$.471 for public liability insurance, they must have used that rate of insurance as testified to, because that is the insurance rate that applies to anybody that must have insurance for cross country pipe line construction.

Q. Well, in order for you to get the \$6.18 for workmen's compensation insurance you had to go further than the Railroad Commission's order, and assume that they

[fol. 1873] adopted your figures, and assume further that they adopted your rates for insurance, didn't you?

A. That is the rate I used.

Q. And that does not show in the Railroad Commission's order?

A. As I said before, it does not, but I have used in the determination of certain items of property the insurance rates as testified to, and the Commission adopted my figures, as is clearly set forth on page 14 of the opinion and order (Reading): "The following reproduction cost new figures as of December 31, 1931, for the several items listed are taken from the appraisal submitted by the Company witness Steinberger and are accepted without discussion." They accepted one hundred per cent the evaluation as prepared by myself and Mr. Connor.

Q. Well, does that say anything about insurance?

A. It does not, but if the Commission would not have accepted the same insurance rates they would have arrived at a different answer.

Q. They might have accepted, as far as you know, \$20.00 per \$100.00 of payroll, with appropriate corrections as to other items, and have still come out at exactly the value that you show for Other Transmission System Land, Including Improvements, as shown by Exhibit 6; Other Transmission System Leaseholds, Including Improvements, as [fol. 1874] shown by Exhibit 6, and so on, as detailed on pages 14 and 15 of the Commission's order, isn't that right?

A. That may be correct, but they would have to juggle all kinds of figures in the entire opinion.

Q. How much do these items you have referred to on pages 14 and 15 amount to?

A. Those probably amount to half a million dollars.

Q. And how much was the labor on those?

A. I couldn't tell offhand. If you refer to page 26, under Compressing Stations, amounting to approximately five million dollars, that is the exact reproduction cost that was adopted, with the exception of certain deductions on valves for compressor engines; the same applies to hauling and stringing, aligning for welding, laying and testing, and construction of telephone systems.

Q. But the Commission did not find it necessary in their order to find any insurance rates for that either, did they?

A. They did not, but they accepted my figure.

Q. All you know about what the Commission did is the final result which it came to, isn't that a fact?

A. I know where the results came from; they came from my figures, where they adopted them. I am certainly [fol. 1875] familiar with them.

Q. Turn to your Exhibit 39. In your column "Quotations June 11, 1934, f.o.b. mill", where you show 20-inch A. O. Smith 59.23 pounds at a unit cost of \$2.1660 per foot,—where did you get that price?

A. That price was furnished to the Lone Star Gas Company's Purchasing Department by A. O. Smith Company.

Q. Do you have a quotation sheet, letter, or any other data showing that price, here?

A. I do not. I was furnished that figure by the Purchasing Department of the Lone Star Gas Company.

Q. Well, have you got the quotations on any of this pipe?

A. I do not have those quotations, Mr. Fitzhugh.

Q. Can you swear of your own knowledge, Mr. Steinberger, under oath, that those prices are correct in that column?

A. I will not swear under oath that those prices are correct, but they were furnished to me by the Purchasing Department—Mr. Richey, and if necessary he can be here to testify.

* * * * *

[fol. 1876] Q. Where did you get those prices shown in your Railroad Commission Gas Utilities Docket No. 75 column, where you show for this same size of pipe a price of \$1.8646 per foot?

A. That is the price—or rather the difference between the prices used by the Lone Star Gas Company, or rather [fol. 1877] by Mr. Connor and myself in our valuation, and the deductions made by Mr. Freese to our report; the deduction amounted to twenty-five and two-hundredths cents per lineal foot.

Mr. Griffith: And the Commission adopted Mr. Freese's prices?

A. The Commission adopted Mr. Freese's pipe prices, yes, sir.

Q. What was the price used in the Company's appraisal for this same size of pipe?

Mr. Griffith: You mean before the Commission, Mr. Fitzhugh?

Mr. Fitzhugh: Yes, sir.

A. Two dollars and eleven and forty-eight hundredths cents.

Q. Is that f.o.b. Texas common points?

A. No, sir, that is f.o.b. mill.

Q. Are you sure that is the correct price?

A. Yes, sir; in other words, we arrived at the figure set forth in Column 4, by taking our mill price and deducting from it the deductions made by Mr. Freese in his exhibit introduced before the Railroad Commission in arriving at the pipe prices, and which prices were used by the Commission in their opinion.

[fol. 1878] Q. Where did you find the list prices used for dresser couplings used by the Railroad Commission in its order?

A. The Railroad Commission's order and opinion does not set forth the individual unit costs that they adopted for dresser couplings.

Q. So you had to go further and assume something else, in addition to the statements in the Commission's order, before you could get these figures, didn't you?

A. The Commission adopted the same costs for pipe line equipment—

Q. Well, you had to assume—

A. —as found by Mr. Connor and myself. I assume the Commission used the same figures.

Q. You had to assume that the Commission adopted your figures?

A. Yes, sir.

Q. Does the Commission's order state that they adopted your dresser coupling figure?

A. It don't specifically state that they adopted our dresser coupling figures, but they adopted our miscellaneous pipe line figures, which include dresser couplings.

[fol. 1879] Q. How much did you say, Mr. Steinberger, pipe had gone down since May 1, 1934—one-half of one per cent.

A. One-half of one per cent on the mill price—one and a half per cent of the mill price, which in other words is an addition of one and a half per cent—which represents the cash discount, or discount for prompt payment.

Q. How much is that?

A. Approximately \$309,693.00.

Q. In your final value, or grand total, shown on page 1, of Exhibit 40, is that \$309,693.00 included in your total?

A. It is included, because that evaluation is made as of May 1, 1934; and the addition of 1½ per cent discount did not become effective until June 11, 1934.

Q. Since January 1, 1933, threaded and coupled pipe has gone down materially, has it not?

A. I cannot answer that offhand, Mr. Fitzhugh. I don't have any tabulations on that before me.

Q. Well, that is the type of equipment—type of pipe used on field lines, isn't it?

A. That is correct.

Q. You don't make any revaluation of field-lines?

A. No; I don't make any revaluation of field lines. There is a very small amount of it, and the decrease in price in the threaded and coupled pipe would have been offset by the increase in labor costs.

Q. But that is a type of pipe that has gone down; but it [fol. 1880] is the sort of thing you have left out of this statement, isn't it?

A. I merely made a revaluation of the transmission line equipment, and field line equipment is a very small part of the overall total.

Q. On page 7, of your Exhibit 40, you find the construction costs from May 1, 1934 on transmission line equipment to be \$7,339,248.79. Where did you get that figure?

A. That figure was arrived at by taking the unit costs as determined by Mr. Biddison in his valuation of January 1, 1933, and applying to those unit costs the increased labor cost. In other words, wherever he used 35 cents for common labor, I used 40 cents for common labor.

Q. Can you break down this total amount by lines?

A. This \$7,339,248.79?

Q. Yes.

A. No; I didn't work it up by lines.

Q. Well, how did you work it up?

A. I can break down the overall costs—the total of \$33,473,821.12 by lines.

Q. Well, what I mean, I would like to know how you found this construction cost—you didn't find it by lines, did you?

A. In the same manner Mr. Biddison found his figure, by individual lines, individual performances, and individual unit costs.

[fol. 1881]. Q. You just took Mr. Biddison's figures and applied them to different labor rates?

A. To different labor rates and different insurance rates.

Q. So to find out by lines you would have to go back to Exhibit 28 and find out what Mr. Biddison used on say, Line A, and break down his unit costs to inquire into the correctness of your figure?

A. I can give you the exact cost by line based on this 40-cent rate as of May 1, 1934.

Q. Well, what would it be on Line A?

A. On Line A, the total cost of pipe in place as of January 1, 1933, was \$2,782,450.98; May 1, 1934, \$2,991,067.93; or an increase of \$208,616.95. Welding costs, January 1, 1933, \$118,072.58; May 1, 1934, \$117,417.99; or a decrease of \$654.59. Dresser Couplings, January 1, 1933, \$167,175.61; May 1, 1934, \$190,765.77; or an increase of \$14,590.16. Miscellaneous fittings, January 1, 1933, \$30,899.88; the same figure was used for May 1, 1934. Special Construction, \$62,476.04, as of January 1, 1933, and the same figure for May 1, 1934. Total Miscellaneous Items, Fittings, and so forth, \$93,375.92, for both January 1, 1933, and May 1, 1934; or a total for Line A as of January 1, 1933, in the amount of \$3,170,075.09; as of May 1, 1934, \$3,392,627.61; or an increase on Line A between January 1, 1933 and May 1, 1934, in the amount of \$222,552.52.

Q. Now, this \$208,616 includes both the pipe and the [fol. 1882] labor increase, does it not?

A. Yes; it does.

Q. Now, how much of that amount is labor?

A. I don't have it segregated between labor—I can give you that by giving you each item individually by unit costs per foot, but it is a long job.

Q. Well—

Mr. Griffith: In other words, you can give it in unit costs per foot, but you can't divide the total amount?

A. That is correct.

Q. Mr. Steinberger, to find your construction costs you had to make a separation between the material and the labor, didn't you?

A. Mr. Fitzhugh, for the preparation of page 7, of Exhibit 40, what we did, we arrived at the total cost of pipe in place as of May 1, 1934, in the amount of \$29,399,372.34; deducted from that figure the total cost of pipe f. o. b. railroad siding, in the amount of \$22,060,123.55, and arrived at a construction cost in the amount of \$7,339,248.79. But we have prepared a separate unit cost for each line in order to arrive at a valuation as of May 1, 1934.

Q. On the 18-inch portion of Line A what was the increased cost of construction per foot?

A. In the evaluation, unit cost arrived at by Mr. Biddison as of January 1, 1933, the total installation cost on Line A, [fol. 1883] 18-inch, having 59.023 pounds per foot weight, being 58.6864 cents per hundred lineal feet, plus $2\frac{1}{2}$ per cent for omissions and contingencies, amounting to 60.1536 per hundred lineal feet. The installation costs for the same size and weight of pipe evaluated as of May 1, 1934 is 63.6393 cents plus $2\frac{1}{2}$ per cent for omissions and contingencies, or a total of 65.2302 cents per hundred lineal feet, or an increase of 5.0766 cents per hundred lineal feet.

Q. What was the increase per foot in hauling?

A. 38.92 cents per hundred lineal feet, applying to the 53.2223 pounds per lineal foot.

Q. When you were last on the stand, Mr. Steinberger, you were asked for a classification of the part of line B where it branches off from 2nd B, north of Rhome, Texas. Do you have that now?

A. Yes.

Q. This is for what length of line?

A. Do you want a segregation now between the north end and the south end, or what length of line do you desire, Mr. Fitzhugh?

Q. The segregation for both ends.

A. All right. The north end from Station O plus O-O, to Station 3975 plus O-O—

Q. Is that the station right north of Rhome?

[fol. 1884] A. That is correct—where Line 2nd B cross over Line B and goes east to Birdville.

Q. And Station O-O is at Petrolia, Texas?

A. That is correct.

Q. All right.

A. Machine excavation, 62.72 per cent; hand-earth excavation, 10.80 per cent; rock excavation 4.95 per cent; or a total of 78.47 per cent.

Q. Now, then, beginning at the station on the southernmost section of that part of the line proceed on to the end of the line?

A. From Station 3970 plus O-O to the end of the line, which is at North Fort Worth, machine excavation 14.2 per cent; earth excavation 1.17 per cent; and rock excavation 6.16 per cent; or a total of 21.53 per cent.

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Q. Now, the machine excavation on the north end of this line was 62.72 per cent of the whole amount of excavation on the line?

A. The whole amount of machine excavation 62.72 per [fol. 1885] cent of the total excavation, yes, sir.

Q. And the 10.8 per cent for hand excavation on the north end is 10.8 per cent of the excavation on the whole line, is it not?

A. Yes, sir.

Q. Now, if you regarded simply the north part as an independent line of its own, what would the per cents for these classifications figure out?

A. Taking the north end of the line from Petrolia to Station 3975 plus O-O, machine excavation is 79.5 per cent; hand-earth excavation, 13.8 per cent; and rock excavation 6.7 per cent.

Q. Now, this portion of the line we have been talking about as the north portion is the part of the line that follows right along with line 2nd B—they are in the same right of way?

A. No; not in the same right of way.

Q. Well, they are only about twenty or thirty feet apart, aren't they?

A. I think they are sixty to seventy-five feet apart. The Government line goes between those lines part of the way.

Q. Well, they are never more than sixty or seventy feet apart?

[fol. 1886] A. About that distance.

Q. In most places, they are right along together, are they not, Mr. Steinberger?

A. No, sir; that would not be good construction practice, Mr. Fitzhugh.

Q. And in some places aren't they as close as twenty or thirty feet apart?

A. No; they are at least sixty to seventy-five feet apart, because twenty feet would not be good construction practice, because if there was a blow-out on one line it would endanger the other line.

[fol. 1887] Q. What was the classification of excavation as actually found on Line Second B?

A. Second B, classification of excavation, machine 90.10 per cent; hand excavation, .83 of one per cent; rock excavation 9.07 per cent.

Q. Now, by the barring method you determined the percentages given on Line B, didn't you?

A. Yes, sir.

Q. By actual measurement under actual construction conditions you found the per cent on Second B?

A. Yes, sir.

Q. In one case by the barring method you find that the hand excavation is 13.8 per cent, and by actual test on Second B it shows only eight-tenths of one per cent?

A. Mr. Fitzhugh, the figure of 13.8 per cent is only between Petrolia and crossovers of Line B, 16 inch; whereas the .83 of one per cent is on the entire line of Second B. I want to get that straight.

Q. If you had put all the hand excavation on Line Second B, even the part on the southern part of the line where it branches off at Rhome, into the hand excavation classification, you still would have only one and a quarter per cent for hand excavation on the whole line?

A. That is correct; yes, sir.

Q. That is one and a quarter per cent as opposed to 13.8 per cent as found by the barring method?

A. Yes, sir.

[fol. 1888] Q. To make the determination by the barring method, I believe, you made tests every five hundred feet of line, did you?

A. Yes, sir.

Q. How could you tell by the use of the barring method where you would have to use hand earth excavation?

A. From the general contour of the soil.

Q. Well, you dropped off the line over a few feet and dropped down a bar, didn't you, to find whether there was rock or whether it was soil?

A. Well, the bar was driven at the side of the ditch to determine the classification, whether it was rock or soil.

Q. What instructions did you give the men working in making the bar test as to the classification they should give

for earth—how would they determine about the earth proportion?

A. They would use their experience and their judgment, whether it was accessible to a ditching machine to excavate that portion of the land.

Q. If they thought the ground was too rough for a machine they classified it as hand earth?

A. If it was too rough or not accessible for a machine, yes.

Q. Now, how did your men determine the rock excavation?

A. They determined from the backfill whether there was any solid rock in that vicinity, and when there was no rock on top of the soil, of course, they drove the bar down to determine it. If the rock was only in thin ledges, it was considered as soil and not as solid rock.

[fol. 1889] Q. Now, as to the backfill, you are talking about the cover over the trench?

A. That is correct.

Q. All the rock in that backfill has been broken up?

A. Yes, but you can determine whether it was broken up in solid rock or in thin ledges.

Q. You can tell that?

A. Yes, sir.

Q. You could not tell, could you, Mr. Steinberger, by looking in the backfill whether the rock broken up and lying there as fragments had been a layer of rock a foot deep or four feet deep—from the fragments you could not tell that, could you?

A. No, but if I find rock a foot deep I would say, "That is solid rock", and finding it that way you are not going in there with the ditching machine.

Q. Now, for the purpose of finding what was there you had your men drop off the ditch a few feet and drive the bar?

A. Dropped off two feet from the ditch to determine the depth.

Q. Well, now, when the bar struck some sort of obstruction which it could not pass you classified it as rock for the purpose of that observation, did you not?

[fol. 1890] A. No, unless the backfill showed there was solid rock in that vicinity.

Q. Well, these observations are the same observations as you testified to before the Railroad Commission?

A. At great length, yes.

Q. Didn't you testify before the Railroad Commission that whenever by bar test the bar struck a rock, no matter where the rock was located, whether six inches below the surface or farther, that you assumed all below that to be rock?

A. Yes, if the backfill so showed; yes, I so testified.

Q. Did you have your observations of bar test on Line B?

A. What observations do you mean, Mr. Fitzhugh?—every five hundred feet?

Q. Yes.

A. Yes.

Q. Can you point out in those observations any place where by the barring test a bar struck ~~rock~~, where all the soil below that point was not classified as rock excavation—or, rather, where all the excavation below that point was not classified as rock excavation?

A. I can't tell from these notes. This is merely summarizing the depth data.

Q. You were not with the men that made the barring test?

A. Not all the time, no, sir. I have several gangs—had six gangs doing that work, scattered over four thousand miles of pipe line.

Q. You were also asked a few days ago, Mr. Steinberger, [fol. 1891] for a classification of excavation on Line "A" or for the portion which ran through Oklahoma?

A. Yes, sir.

Q. Do you have that now?

A. Yes, sir: From station 5442 plus double Q to station 7315 plus 68 machine excavation is 17.85 per cent, hand excavation earth, 1.13 per cent; rock excavation, 1.69 per cent, or a total of 20.67 per cent of the total yardage on Line "A".

Q. What would have been the classification, Mr. Steinberger, considering this as a separate line—this section of it?

A. Taking that portion of the line in Oklahoma as a separate line, the excavation would be as follows: Machine, 86.5 per cent; hand earth, 5.3 per cent; rock, 8.2 per cent. That is a total of 100 per cent.

Q. Mr. Steinberger, you were asked to give the total number of yards as found by actual measurement of the lines studied?

A. Yes.

Q. Do you have that?

A. Yes. Do you want the individual lines, Mr. Fitzhugh?

Q. Yes, sir.

Mr. Griffith: How many of them are there, Mr. Steinberger?

A. Approximately thirty.

Q. How many lines did you study when you discovered this \$2.18 per cubic yard for hand earth excavation of less [fol. 1892] than two hundred feet?

A. I studied approximately forty or forty-five lines; I don't know definitely.

Q. Now, will you give those lines, classification and yardage on each line?

A. The lines on which I determined that \$2.18?

Q. Yes, sir.

A. Line E-10-5, 136.7 cubic yards; Line L-26-A, 189.4 cubic yards; Line K-C-Bm, 1,871.4 cubic yards.

Q. Well, now, wait a minute. You are omitting the classification on those lines. Did you give that?

A. What classification do you mean?

Q. The per cent of hand earth excavation.

A. Well, I don't have the per cent of that. In other words, the determination you asked me for the other day was to give you the determination of hand and machine rock excavation on lines on which I had one hundred per cent study; in other words, I made a study for hand excavation on some lines on which I did not have any rock excavation or complete data as to machine excavation. Now, I think what you asked me for the other day was a classification of machine and hand rock excavation on lines on which I had one hundred per cent study as to both machine and hand earth excavation.

Q. Well, on portions of the lines where you made the study, don't you know now what the percentage of the hand earth excavation on that represented?

A. No, I don't, because in some cases the daily progress reports were not complete and in order to enable me to make [fol. 1893] the segregation I eliminated such reports.

Q. Well, can you give it on some of the lines?

A. I can give it to you on 487,000 yards, which consists of both machine, earth and rock excavation; and which, incidentally is the information which you requested me to get the other day.

Q. All right, sir; give us that, please.

A. Out of a total of 487,119 yards of excavation, there were 445,796 cubic yards of machine excavation; 6,795 yards hand-earth excavation, and 34,528 yards of rock excavation.

Q. What are the percentages of the different classifications?

A. Machine 91.52 per cent; hand-earth 1.39 per cent; rock, 7.09 per cent; a total of 100 per cent.

Q. What is the biggest line, or the longest line that you included in your hand-earth excavation study?

A. Line 2nd B.

Q. Is that covered by these figures?

A. Yes, sir.

Q. Now, refer to your notes on your 2nd B study for hand-earth excavation and give the number of hours for the different classes of labor and equipment used in building that line?

A. Line 2nd B—foreman, 103 hours; sub-foreman, 223 hours; laborers, 5530 hours; truck-driver, 205 hours; watchman, 105 hours; equipment—one ton truck, 183 hours; one Ford car, 62 hours; one team and driver, 81 hours; a total [fol. 1894] yardage of hand excavation, 1,395.1.

Q. Does this labor of 5530 hours include the labor for crumming behind the ditching machine?

A. It does not. The hand excavation gang has nothing to do with the ditching machine gang. They are sometimes four, or five, or ten miles apart.

Q. Do you have the total yardages on the whole system for the different classifications of excavation?

A. The entire Lone Star system?

Q. Yes, sir.

A. What period do you want, Mr. Fitzhugh? Do you want what I set forth to tie in with Exhibit 28?

Q. Yes, sir.

A. Yes, sir; I have that figure. The total yardage of excavation in the transmission system of the Lone Star Gas Company is 3,375,162.9 cubic yards.

Q. Of that yardage, how much has been classified by the barring method?

A. 2,786,080.3 yards.

* * * * *

[fol. 1895] Recross-examination.

Questions by Mr. Fitzhugh:

Q. But on the northern portion of the line, from Petrolia to just north of Rhome, where Line B and 2nd B parallel each other at a distance not over 60 to 70 feet apart, the conditions for excavation are practically identical, are they not?

A. Not in each case, Mr. Fitzhugh. That is very rough country, and on one line there may be 100 per cent machine [fol. 1896] excavation and an ideal country for machine excavation, whereas on the other hand, you have gullies, ravines, and numerous small stream crossings, particularly from Decatur north as far as Bowie.

Q. Well, there would not be ten times difference would there? You have ten times as much hand excavation on Line B as you have on Line 2nd B, for a line just about 50 or 60 feet away?

A. Well, I am surprised there is not more, Mr. Fitzhugh. I have been all over that country; I have walked over every foot of it.

* * * * *

[fol. 1897] Ed C. CONNOR, a witness for defendant, recalled, testified as follows:

Direct examination.

Questions by Mr. Griffith:

The Court: All right, gentlemen, let's proceed.

Q. You are still the same Ed C. Connor who has heretofore appeared and testified in this case?

A. I am, yes, sir.

Q. Mr. Connor, in connection with the statement of your qualifications when you first appeared on the stand in this case, I believe you testified at some length in regard to the experience which you had had in making studies regarding

replacement, retirement, and abandonment for all causes of natural gas properties, and particularly steel pipe?

A. That is correct; and particularly the property of Lone Star Gas Company, and the distributing companies to which it delivers gas.

Q. What specific studies in relation to the retirement, abandonment and replacements of units of property in the several classifications of Lone Star Gas Company have you made?

[fol. 1898] A. I made a study of all its property accounts since the time the Company was organized in 1909, with reference to the replacement, abandonment, and removal of all of the major property items included in the company's system. I have examined each and every voucher of the company which had anything to do with the removal, replacement, and abandonment of property items. As I have said before, I amplified that study of the property units of Lone Star Gas Company to include the history of steel pipe in the Fort Worth Division of Lone Star Gas Company, which is a distribution system located in the City of Fort Worth, 225 plants served by the Community Natural Gas Company, and the Denton, Sherman, Wichita Falls, Corsicana, Bowie, Denison, and McKinney plants of the Municipal Gas Company, which is a distribution company whose plants are also served by Lone Star Gas Company.

Q. Mr. Connor, what is depreciation in an operating sense?

A. Depreciation is the loss of value through physical causes, or through determinable causes, which has taken place in a property at a given time, despite the replacements and renewals of property items and the maintenance of property items. It is a condition which exists at a given time.

Q. Well, now, Mr. Connor, is it necessary that there be included in the operating expenses of any company, such as Lone Star Gas Company, an annual allowance for depreciation, in its broadest sense?

A. There must be included in the current operating expenses of a company an allowance to cover the loss which is represented by depreciation, the cost of replacements, removals and abandonments of physical items of property, the costs of such major rehabilitations of prop-

erty items as are properly chargeable to a depreciation reserve account, and in the natural gas company provision must also be made for the depreciation of wasting capital assets, such as gas reserves, which are currently made smaller by the withdrawal of gas from them. Provision must also be made for the abandonment and the replacement of natural gas wells; and finally in the case of a natural gas pipe line company, which has a property all of which is dependent upon its service value, upon the existence of an asset or a commodity which is wasting, an amortization accrual, which will provide for the final loss which will come about through the ultimate dissipation of the gas supply available to the system. I may have omitted one or two things which depreciation reserve should and must provide for; but, in a general way, the statement I have made covers the function of a depreciation reserve accrual, as it is commonly called, as applicable to a natural gas pipe line company.

Q. In the broadest sense does the term depreciation reserve accrual cover and include not only depreciation, but [fol. 1900] depletion and amortization as well in connection with a natural gas property?

A. That is correct. The depreciation itself is that loss which takes place despite the payments and charges which are made from the depreciation reserve account itself; and, of course, for that reason only represents a small part of the function of a depreciation reserve accrual.

Q. Mr. Connor, you have read and are familiar with the findings and order of the Railroad Commission of Texas entered on September 13, 1933, in Gas Utilities Docket No. 75?

A. I am, yes, sir.

Q. Are you particularly familiar with those portions of said finding and order which relate to annual depreciation reserve accruals?

A. I am, yes, sir.

Q. Are you familiar with the respective allowances made by the Railroad Commission of Texas in its said finding, opinion, and order in relation to each one of the property classifications of Lone Star Gas Company?

A. I am, yes, sir.

Q. In round figures, and expressed as a percentage, what was the annual depreciation reserve allowance made by the Railroad Commission of Texas in its said opinion and order?

A. The amount shown on page 69 of the order is \$968,066.98.

Q. And expressed as a percentage, what annual rate does [fol. 1901] there show to have been allowed?

A. 2.284 per cent.

Q. Of what?

A. Of the reproduction cost new of certain depreciable items as found by the Commission amounting to \$42,387,856.78.

Q. Now, in addition to such an allowance for annual depreciation charges, or for credit annually to depreciation reserve account, did the Commission make some allowance for depletion?

A. The amount allowed for the depletion of the gas reserves of the Company, as shown on page 70 of the order, were \$15,631.45.

Q. Now, Mr. Connor, upon what basis did the Railroad Commission of Texas say that it determined this depreciation reserve accrual—upon what method of accounting for depreciation reserve accruals?

A. The method adopted by the Commission was the method suggested by Mr. Simon Freese, and which he described as the sinking fund method of reserve accrual.

Q. What is the sinking fund method, and contrast it with any other generally accepted and recognized method of accruing depreciation reserve accruals?

A. The sinking fund method is a method which sets aside an annual sum of money, which when compounded at a given rate of interest, will equal a given sum at a given period of time.

[fol. 1902] Q. Does it presuppose the use of an undepreciated rate base?

A. It is always used in connection with an undepreciated rate base, for the reason that the reserve accrued is not free capital which the owner of the property may enjoy the use of, because the amount earned on the reserve cannot be used by the owner of the property, but must be credited to the reserve concurrently with its accrual.

Q. Is there any other method which is commonly used for the accruing of depreciation reserve accruals?

A. Yes; there is what is generally called the straight line reserve accrual, which contemplate the setting aside annually of a uniform rate, which is not set aside and compounded in a fund, but is to be used and withdrawn from

currently for the making of necessary replacements, removals, and abandonments, and other charges to a reserve account.

[fol. 1903] Q. Which is the more commonly known and used method of accruing depreciation reserve accruals?

A. The straight line method is the method generally adopted.

Q. Is it the method generally in use by public utility companies?

A. It is the method which is, I would say, almost universally used by public utilities in connection with their own accounting.

Q. Is it the method which is generally approved by regulatory and rate-making bodies and public authorities generally?

A. It is.

Q. Is it the method approved by the Interstate Commerce Commission?

A. It is.

Q. Has it been the method which has been in use by the Lone Star Gas Company over a period of twenty-five years?

A. It is, and it is the method which, in the main, I have used in connection with making my determinations of the proper reserve accruals for Lone Star Gas Company.

Q. Now, Mr. Connor, in your opinion and based upon your experience and study of the Lone Star Gas Company property in particular and other properties in general, do you believe that the annual allowance as made by the Railroad Commission and as clearly set forth in its opinion and order of September 13, 1933, was adequate to provide for the retirements, replacements and abandonments of the [fol. 1904] several classifications of property which the Lone Star Gas Company then had and now has?

A. I think the allowance is utterly inadequate.

Q. Mr. Connor, have you prepared in form to be presented as an exhibit in this case your estimate of the annual accruals necessary for credit to depreciation reserve account to cover depletion, depreciation and amortization of the Lone Star Gas Company's public service property as of January 1, 1933?

A. Yes, sir.

Q. Would there be any substantial difference between that compilation as related to the property as of January 1,

1933, and as related to the property as of this date, to-wit: June 29, 1934?

A. There would not, and for this reason: The relative calculations which I have made are predicated upon the necessary reserves which would be required for the property of Lone Star Gas Company as of January 1, 1933, as applied to all future years; in other words, the determination is made predicated upon the assumption that this reserve will protect this property in the future, and that is the function of a depreciation reserve accrual.

Q. Mr. Connor, is this the estimate to which you refer, being styled on the title cover "Lone Star Gas Company—Application of Annual Reserve Rates to Reproduction Cost New of the Public Service Property Exclusive of Fort Worth Division, January 1, 1933—Ed C. Connor, Consulting Engineer, Dallas, Texas"?

[fol. 1905] A. That is correct.

Mr. Griffith: We offer the compilation so identified by the witness in evidence.

Mr. Stout: Mr. Connor, do you show any segregation between Texas and Oklahoma in this exhibit?

A. I show no segregation between the property of Lone Star Gas Company located in those States.

Mr. Stout: For the purpose of the record, if the Court please, we make the same objection we have heretofore made, that there is no separation of any kind between Texas and Oklahoma property or business.

The Court: The objection is overruled.

Mr. Stout: Note our exception.

(Thereupon the above document was marked as Defendant's Exhibit No. 41.)

Q. Mr. Connor, refer, please, to Exhibit 41 and state in a general way what is contained in the exhibit.

A. The exhibit contains in the left-hand column a description of the property by property account classification. The first figure column sets out the reproduction cost new as determined by Mr. P. McDonald Biddison, Mr. E. A. Steinberger and myself and as reflected by Exhibit 28 in this case. The second figure column represents my estimate of the annual rate of reserve accrual which must be applied to the estimated cost of reproduction. The third or final figure

[fol. 1906] column, which is found on the right, merely sets out the application of the percentage in the second column to the money in the first column and is the annual amount which I estimate should be accrued.

Q. What is the total annual reserve accruals as estimated by you and set forth in Defendant's Exhibit 41?

A. Before answering that question, Mr. Griffith, I would like to call attention to the fact that in some instances, particularly with reference to the leaseholds developed and gas wells, that there is an annual amount set up, but no annual rate of reserve accrual included. The reason for that omission of an annual rate of reserve accrual will be fully developed as my explanation proceeds. The total amount of reserve accrual which I estimate would be required from January 1, 1933, each year in the future, to do the things required of a reserve accrual for the property of Lone Star Gas Company, is \$3,022,597.54. The amount annually required to provide for the decline in per cent of new condition of the other undistributed general costs is \$92,001.30. The amount annually required for the amortization of the property as a whole is estimated by me to be \$350,514.52, making a total for the reserve accrual of \$3,465,123.36.

Q. On pages 3 and 4 of Defendant's Exhibit 41 have you set forth the value of property items to be amortized?

A. That is correct. On pages 3 and 4 I have set out in summary form the manner in which I made a determination [fol. 1907] of the value of the property which I feel should be amortized.

Q. Upon the basis of that particular property you calculated your amortization rates?

A. That is correct. I applied to the \$42,332,671.62, which is my estimate of the value of the property which would be subject to liquidation upon the abandonment by Lone Star Gas Company—I applied the amortization rate determined by the forty year sinking fund accrual calculated upon a five per cent basis.

Q. Mr. Connor, will you please explain the several columns appearing on pages 3 and 4 of the exhibit?

A. Column A is the total reproduction cost new of the property and business of Lone Star Gas Company as determined by Mr. P. McDonald Biddison, Mr. E. A. Steinberger and myself as is reflected by Exhibit 28. In connection with my study of the annual reserve accruals which

would be required for this property, there were certain elements of the plant which the reserve itself as set up contemplated retirements of the particular property items, and of course if there is a provision already made for the retirements of the property items it would not be necessary to amortize the value of those items. There are certain other items of property in the possession of Lone Star Gas Company as of January 1, 1933, which would be worth as much at the end of the time when Lone Star Gas Company had to go out of business as they would be worth now, and of course there would be no necessity to set up a reserve accrual to amortize items such as those.

[fol. 1908] Q. Such as what, Mr. Connor?

A. Such as land, where the land would be usable for other purposes and would not lose any of its intrinsic worth to the company by reason of the fact that the company was not operating as a natural gas pipe line system. Now, on certain other parcels of land I have reduced or at least applied the amortization of a proportionate part of their cost, for the reason that they would lose a certain amount of their present value if they were not used for the purpose for which they are now being used. That would be exemplified by compressor station-sites and real estate of that character, and small parcels of real estate which were taken out of the corner of a man's field for the purpose of locating a measuring station, or something of that sort.

[fol. 1909] Q. Now, Mr. Connor, give some simple illustration of the applicability of an amortization accrual in connection with the natural gas business,—either actual, as applied to Lone Star Gas Company's property, or theoretical, by way of explanation.

A. A simple illustration would be a pipe line extending from a gas field to a given market, with a definite limited supply of gas in that field, and no prospects of extending the line beyond the field from which it was taking gas. It would be obvious that as that pipe line withdrew the gas from that particular field that it would be approaching the time when it would have to go out of business, due to the fact that there was nothing which would replenish that gas after it had been withdrawn. The pipe line, of course, would have to stay operative and be in position to render service up until the day that it quit business; but at the end of that time it would be worth only what salvage could be recovered from the phys-

ical property. Now, a situation of that kind presents a simple illustration of the necessity for accruing an amortization reserve which will provide for the contingency which I have outlined.

Q. And which would replace the capital at the end of the useful life of the line?

[fol. 1910] A. Yes. And I would like to correct the word "contingency", because in that situation it would be a certainty and not a contingency.

Q. Mr. Connor, in connection with your determination of the annual reserve rates to be applied to the particular classifications of property as set forth in Defendant's Exhibit 41, have you prepared a report covering the annual reserve accruals required by Lone Star Gas Company as of January 1st, 1933, and giving the basic data upon which these reserve accruals set forth in Exhibit 41 are predicated?

A. I have.

Q. Is this the report to which you refer, it being styled on the title cover, "Report Annual Reserve Accruals Required For Lone Star Gas Company—January 1, 1933. Ed C. Connor, Consulting Engineer, Dallas, Texas."?

A. It is.

Mr. Griffith: We offer the report so identified by the witness, in evidence.

Examination by Mr. Stout:

Q. Mr. Connor, as usual, you show no separation whatsoever as between the State of Texas and the State of Oklahoma as to property or business, do you?

A. No, sir.

[fol. 1911] Q. In any shape, form or fashion?

A. No, sir.

Mr. Stout: Well; we make the same objection, Your Honor, that we have previously made—that there is no separation between the Texas property and the Oklahoma property, and the Texas business and the Oklahoma business, but it is all one mass and one whole; and we are only trying to fix a rate for Texas.

[fol. 1912] (Thereupon the document above referred to was marked as Defendant's Exhibit No. 42.)

By Mr. Griffith:

Q. What have you endeavored to set forth in Defendant's Exhibit 42? That is, give a brief explanation of what is covered by the exhibit.

A. I have endeavored in this exhibit, Mr. Griffith, to develop in detail the bases for the various annual rates which have been applied in Exhibit 41.

Q. Does Exhibit 42 afford, in large measure, the factual data based upon the experience of the Lone Star Gas Company which you have used in connection with the compilation of the estimate of reserve accruals set forth in Defendant's Exhibit 41?

A. That is correct.

Q. Have you, in connection with Exhibit 42, set forth the experience of the Lone Star Gas Company in connection with the abandonment and retirement of gas wells, and the re-[fol. 1913] movals and replacements of steel pipe in its System, covering the entire period of its corporate existence and operations?

A. That is correct; and I have also included a history of all gas wells, exclusive of the gas wells in the Petrolia Field, that are now connected to the System of Lone Star Gas Company.

Q. You have made a recapitulation of the pipe replacements, removals and abandonments by years, and by sizes and feet of pipe?

A. That is correct.

Q. Have you also set forth in Exhibit 42 a schedule showing the replacements of pipe on the main lines, removals and abandonments of lines, by years, by sizes and by feet of pipe?

A. I have shown in this exhibit the replacements, removals and abandonments of the pipe in the entire System, the main and tap lines, and the field and well lines; and also have shown the replacements, removals and abandonments of main lines, tap lines, well lines, and field lines, individually, in so far as it was possible to make a segregation of the replacements, removals, and abandonments in those particular classes of pipe line.

Q. In other words, in so far as the records were available [fol. 1914] from which data could be secured, you have endeavored to analyze every replacement, retirement, abandonment, or removal of pipe of every kind and character?

A. That is correct; but as pointed out in the text of the report, in the earlier history of the Company the plant and equipment section of the Accounting Department, which handled the replacement items, did not make a segregation between main lines and tap lines, and field lines and well lines, and for that reason in this report I have consolidated it—that is, the history of their replacements, removals, and abandonments.

Q. Now, you have set forth in Exhibit 42 consolidated summaries of your main line and tap line and well line and field line replacements, removals and abandonments, and have done that by years and by sizes of pipe and by feet of pipe for the respective years in which the removals occurred?

A. That is correct; and in all cases I have reduced the figures found to what is termed “feet of pipe of three-inch equivalent diameter.”

Q. Please explain what you mean by “feet of pipe of three-inch equivalent diameter”.

A. If a foot of pipe three inches in diameter was removed there would be no adjustment, because the pipe removed. [fol. 1915] was three inches in diameter. If a foot of pipe twelve inches in diameter was removed, that foot of pipe when reduced to a length of equivalent three-inch diameter would be three feet; in other words, when you are dealing—

Q. Four feet, would it not?

A. Four feet. Where you are dealing with a large number or a large amount of pipe of various sizes, in order to reduce the footage of that pipe to a common denominator it is necessary to express it in terms of a pipe of a standard diameter, and in all natural gas practice the common denominator used for that purpose is three inches; and I have, therefore, reduced all of the replacements, removals and abandonments to the equivalent footage expressed in terms of three-inch diameter pipe.

Q. Mr. Connor, refer, please, to page 1 of Defendant's Exhibit 41. In connection with the Production System Property it is noted that your Annual Allowance for Depreciation Accrual is \$146,000.00 per annum.

A. That is correct.

Q. Upon what is that allowance predicated?

A. That is what is termed a depletion allowance, as dis-

tinguished from the accruals set up for other items of property; and it is predicated upon the volume of gas which will [fol. 1916] have to be recovered in order to exhaust the gas reserves of Lone Star Gas Company, the unit price fixed for each thousand cubic feet of gas in those reserves, and my estimate of what the average rate of withdrawal from those reserves will be over a period of time extending into the future; in other words, a more or less uniform charge for the item of depletion.

[fol. 1917] Q. If we refer to pages 311 and 312 of Defendant's Exhibit 42, do we find on those pages a development of the basis upon which you predicate this allowance of \$146,000 per annum?

A. That is correct; and in so far as that part of the exhibit is concerned, the quantity of gas set out has been heretofore testified to by Mr. J. H. Dunn. The unit value of recoverable gas has been testified to by Mr. D. A. Huley. The determination of the average future annual rate of withdrawal from these reserves is based upon a study and report covering that particular phase of the investigation prepared by Mr. J. H. Dunn and myself.

Q. Now, Mr. Connor in determining proper annual depletion charges covering the utilization of the Company's gas reserves, wouldn't it be proper to apply your depletion rate per thousand cubic feet of .73 of one cent to the actual gas produced in any one particular year?

A. I don't think that that would be a good way to handle it. It would, of course, produce over a period of years the same amount of accrual as by the method which I have used; but it would create a fluctuation in the annual charges which would not be a true representation of the average annual cost of giving service, because it would be largely created by a different rate at which the Company took gas from its own reserves, and that change in the rate of withdrawal would in no wise reflect the total average gas delivered by the Company.

[fol. 1918] Q. If we refer to page 70 of the order, findings, and opinion of the Railroad Commission of Texas, do we find that the Railroad Commission of Texas allowed \$15,631.45 per annum for this depletion allowance?

A. That is correct.

Q. Mr. Connor, in connection with the next item of property appearing as Leaseholds Undeveloped on page 1, of

Defendant's Exhibit 41, it is noted that you set up no annual rate of reserve accruals?

A. That is correct.

Q. Why is that?

A. Because I don't think any is necessary.

Q. Is it the practice of the Company, and has it been the practice over a period of many years to charge directly to Operating Expenses all amounts involved in canceling and surrendering undeveloped leases?

A. That is correct.

Q. And being handled directly into the operating charges of the Company, would there be any necessity for accruing a depreciation reserve accrual covering this particular item?

A. That is correct; there would not be, because any item of expense, or cost of service, which is charged direct to the operating expenses of the Company would eliminate the necessity for setting up a reserve accrual, which would do the same thing.

[fol. 1919] Q. And for that reason you have set forth nothing covering a reserve accrual on the undeveloped leaseholds in your Exhibit 41?

A. That is correct.

Q. The next item of property appears to be Gas Wells, the reproduction cost new of which is \$4,057,020.15, and for which you have estimated a proper annual accrual of \$421,316?

A. That is correct.

Q. How did you determine that this was a proper annual accrual in relation to gas wells?

A. The detail analysis of the manner in which I made my estimate for the reserve required for gas well construction and equipment is set out in detail in part 3 of Exhibit 42, beginning at page 187 and extending through page 235.

Q. Now, Mr. Connor, please relate, in a general way, what you did in order to determine the annual reserve accrual in relation to the item of gas well construction and equipment?

A. I have included in the report an approach to the solution of the problem from two different angles. I will discuss the one which I finally adopted first. A natural gas well as an item of physical property consists of certain pieces of equipment and a certain amount of labor—

Q. That is, drilling costs?

A. The equipment represents the fittings, and the casing [fol. 1920] or tubing in the well, and the labor costs, of course, represent the cost of drilling the hole. Now, a gas well is unlike other items of physical property which will be discussed in connection with this estimate of mine. One gas well might last a month, another gas well might last ten years, and if you didn't take any gas from the well it might last forever; so the question of the passage of time in connection with the life of a gas well is a more or less indeterminate item, and I don't believe that anybody can possibly determine how long a gas well is going to last, because he must know certain things which he cannot know, and therefore, he is unable to make the determination. No one knows at what rate gas will be withdrawn from a given gas well, and unless you do know that you have no way of knowing how long the gas well will live or be serviceable.

Q. You do have a means, however, of estimating the life of gas wells which have been drilled by the Company, and from which the Company has taken gas over a period of years, and the life of which wells have expired?

A. Oh, yes; we have a world of history, and I have incorporated that history in this report of a large number of gas wells—over a thousand—which have been attached to the system of Lone Star Gas Company, and some of which are now attached to the system of Lone Star Gas Company, and I will give a full explanation of just what has happened [fol. 1921] in connection with those particular wells. But taking the problem as a general proposition, the life of a natural gas well is an indeterminate factor, controlled by the rate at which gas is taken from the well, and the amount of gas in the reservoir reached by the well; and for that reason, I determined that the logical method to use in connection with determining what annual sum of money would be required to maintain the present capacity to deliver gas from the wells of Lone Star Gas Company would be to ascertain the sum of money represented by gas well construction and equipment which would be required to take the gas from the reserves of Lone Star Gas Company, and in that way eliminate any consideration of that indeterminate factor, the average life of a gas well, because there is not any such thing. Now, Lone Star Gas Company has a certain amount of gas which has already been determined, which in order to be recovered must be recovered by means of gas well construction and equipment. The amount of

money which Lone Star Gas Company has at this time in gas well construction and equipment, upon a reproduction cost basis, is \$4,754,961.00. Now, those wells will not produce all of the gas from the reservoirs which they reach, and will not produce all of the gas which Mr. Dunn has estimated is in the reservoir covered by the reserves of Lone Star Gas Company. Mr. Dunn estimated the future wells which would be required to withdraw this gas, and [fol. 1922] he estimated that the cost of those wells would be \$2,813,488. Now, the sum of the thousands of cubic feet which those wells—the present wells and the future wells—will recover is 366,545,000 cubic feet. Now, in order to recover that gas it is going to cost in gas well construction and equipment not less than \$7,568,459, and when that gas is recovered the money spent on the wells which I have mentioned will be worth nothing at all; and therefore, if the cost of the service given during that period of time is to be properly accounted for, that sum of money should be returned ratably to the owners of Lone Star Gas Company. The cost of those wells divided by the number of feet of gas which those wells will recover develops a unit cost of \$.0206 per M cubic feet of gas produced by these wells, or two cents plus.

Q. That is per thousand cubic feet?

A. Per thousand cubic feet of gas produced. Now, Mr. Dunn, in making his estimate of the wells which must be drilled in the future in order to recover these reserves, limited his estimate to the obligations of the Lone Star Gas Company under its present lease contracts. Mr. Huley, in making his estimate of the cost of the value of those gas reserves, deducted from the gross value of those reserves the amount of money which Mr. Dunn estimated would be required for future drilling. Now, if Mr. Dunn has under-[fol. 1923] stated—or overstated the amount of gas in those reserves, then the unit cost to bring it out of the ground will be greater than the unit costs which I have set out. If it is suggested that the cost of future drilling should not be included, then it would be necessary to reduce the amount of the volume of gas divided into the money cost of the wells, for the reason that the present wells cannot produce all of the gas. Having developed a unit cost per M cubic feet of something slightly in excess of two cents, I then applied my estimate of twenty billion feet a year average production over the period of time required to deplete these

gas reserves, which resulted in an annual sum of \$412,000.

Q. Is that done at page 207 of Defendant's Exhibit 42?

A. That is correct. Now, in addition to that cost, Mr. Biddison found that the average per cent condition of this property indicated a decline of one per cent per annum based upon the weighted age of the property, and that, too, must be provided for, and I have applied one per cent for the decline in per cent of new condition.

Q. Which decline in per cent condition would take place irrespective of use of the gas well construction and equipment?

[fol. 1924] A. That is correct. The total sum developed is \$450,943. Now, I made a very careful study of what could be recovered in the way of fittings and equipment when a gas well is abandoned.

Q. In other words, casing pulled and tubing recovered, and all other items of recoverable property?

A. That is correct. I studied the experience of the Company in the amount of salvage which they secured from an abandoned gas well. The per centage of total loss was 93.43, and I applied that 93.43 to \$450,943, and arrived at the figure \$421,316.

Q. And which figure is the figure you have carried on to page 1 of Defendant's Exhibit 41, in connection with your annual reserve accruals on gas well construction and equipment?

A. That is correct.

[fol. 1925] Q. Mr. Connor, commencing at page 209 of this section of Defendant's Exhibit 42 and running through page 235, have you set forth certain statistical data upon which your compilations are based?

A. I set out certain statistical data, but the compilation which I have just finished explaining is not predicated upon these compilations. I think, however, in connection with the explanation which I have previously made, that a brief description of the compilations will be enlightening. The compilation shown on page 209 of Exhibit 42 shows the history of 502 gas wells which have been attached to the system of Lone Star Gas Company, but which have been abandoned by reason of the fact that there was no more gas for them to produce. Those wells include all of the wells which have ever been attached to the system of Lone Star Gas Company, except such wells as are now or have been attached to the system in the Petrolia field and have

been abandoned and such wells as are now delivering gas into the system.

Q. In other words, with those exceptions, the summary on page 209 includes every gas well which has ever been connected to the system of Lone Star Gas Company in its entire corporate existence?

A. That is correct. Now, an interesting thing in connection with the summary in this: that in my estimate for setting up the annual accruals for gas well construction and equipment I have estimated that every well which Lone [fol. 1926] Star Gas Company now has attached to its system on the average will produce over nine hundred million feet of gas—nine hundred million feet of gas. The experience of Lone Star Gas Company with reference to the 85 wells which they had attached to their system shows that instead of producing nine hundred thousand feet of gas—

Q. Nine hundred million?

A. Nine hundred million, that the average production from those wells has been only ninety-one million feet of gas plus, and that every other well owned by other people which has been attached to the system of Lone Star Gas Company from the beginning of its operations has only produced 180,000,000 feet of gas.

Q. What is the effect of that upon your estimate?

A. If the future experience of Lone Star Gas Company should be based upon the experience of Lone Star Gas Company—that it has had in the past, it would mean that my estimate is ten times too small.

Q. Now, Mr. Connor, why the discrepancy, then—the apparent discrepancy or seeming discrepancy between the actual experience of the company in the past in reference to the average production of gas from individual wells and your estimate for the future?

A. I have assumed in the estimate which I have made that an ideal condition will exist, and that is that each of the gas wells now connected to the system, together with the few additional wells which Mr. Dunn has estimated will [fol. 1927] be required, will more completely recover all of the gas in the gas reserves of Lone Star Gas Company.

Q. If they don't do it, your estimate for annual reserve accrual will be under that which it should have been?

A. That is correct. Now, that information is informative, because it has to do with the average life of gas wells as actually developed by the experience of the company.

There is also included on pages 212, 213, 214 and 215 an analysis or at least a summarization of the sources from which Lone Star Gas Company has received its gas supply in the past, showing the number of wells that the company has owned, the amount of gas that the company has produced itself on its own production, the gas purchased from casinghead plants and the per cent that that has represented of the total, the gas that the company has purchased from other producers and the per cent that that bears to the total, and also the total volume of gas purchased and produced every year from 1917 to 1932. The purpose of this summary was to show the trend or behavior of the various sources of supply of Lone Star Gas Company. Now, this summary and the summaries which follow, which deal specifically with the decline in the amount of residue gas available to Lone Star Gas Company, are merely summaries which were taken in part from the most complete and detailed analysis of the sources of supply which are available to Lone Star Gas Company, which has been prepared by Mr. J. H. Dunn and myself. In this report reference is [fol. 1928] made to a report which at the time of the preparation of this report was being prepared by Mr. Dunn. Mr. Dunn subsequently turned over the data which he had to me and we collaborated and completed that report, and its findings are absolutely in conformity with the estimated quantity of gas assigned to company production for the future.

Q. On page 216 of Defendant's Exhibit 42, Mr. Connor, have you set forth an actual analysis of the salvable value of materials recovered in connection with the abandonment of twenty-two gas wells in the West Texas field?

A. That is correct. That was simply the basis for the estimate of the salvable value of gas wells which was applied to the gross figure, thereby reducing it in the amount shown on page 207.

Q. Mr. Connor, on page 218 of Defendant's Exhibit 42 you make reference to a compilation of historical data covering 512 abandoned gas wells in Texas and Oklahoma, exclusive of Petrolia field, the mortality history of those abandonments, the total deliveries of those abandoned wells, and also make reference to other calculations, and particularly a tabulation showing the weighted age of aban-

doned wells serving Lone Star Gas Company, and showing abandonments of wells serving Lone Star Gas Company system?

A. That is correct.

Q. Are the details of those tabulations included in this report—that is, Defendant's Exhibit 42?

A. That is correct; they are shown, and the tabulation [fol. 1929] on page 229 with reference to the wells which have been abandoned shows that of the total wells, 512 in number, which have been connected to the Lone Star Gas Company system but which have been abandoned, 177, or 34.57 per cent, lasted one year or less, and that 106 wells, or 20.7 per cent, lasted two years or less, and that 15.62 per cent lasted three years or less, or approximately 80 per cent of the total number of those wells lasted less than three years.

Q. Mr. Connor, what do you mean when you use the term "weighted age"?

A. It is the effective age of a group of units, based upon the number of units and the time they have been in service.

Q. Or what a layman knows as average gas?

A. It would not always correspond to the numerical average age. It would, I think, in the case of a gas well.

Q. Refer, please, to page 232 of Defendant's Exhibit 42. What does that page disclose?

A. The page discloses the fact that if all the wells which have either been attached to the system of Lone Star Gas Company, 1,043 in number,—that is, exclusive of wells in the Petrolia field—were still attached to the system and rendering service at this time, and no consideration had been given to the fact that five hundred and odd of them had been junked years ago, that the average age of that total number of wells would be 6.38 years as of January 1, 1933.

Q. Will you refer, please, Mr. Connor, to page 55 of the [fol. 1930] findings, opinion and order of the Railroad Commission in Gas Utilities Docket No. 75 and read into the record the last full sentence appearing at the bottom of that page?

The Court: What page?

Mr. Griffith: Page 55, right at the bottom of the page.

A. (Reading.) "We find the weighted average life of the Lone Star Gas Company gas wells to be not less than thirteen years."

Q. Now, based upon actually the things that have happened, what is the weighted average life of all wells which have been in service connected to the pipe line system of Lone Star Gas Company?

A. Mr. Griffith, exclusive of the wells in Petrolia field, and covering 531 wells which are now attached to the system, the average life of this well or these wells up to this time—and that is all the experience that we have in connection with this particular subject—has been 3.98 years.

Q. Where is that shown in connection with your report—that is, Exhibit 42?

A. That is shown on page 230: Now, if reference is made to page 233, we have there a history set out in detail of 1,001 wells, and those wells represent the wells that are now connected to Lone Star Gas Company, as well as the wells which have been disconnected. Now, the Commission's order states on page 55: "We find the weighted average [fol. 1931] life of the Lone Star Gas Company gas wells to be not less than thirteen years." Now, when you say "average" with reference to the life of a property unit—average life—some passing out of service at a very early day and some lingering along past the average life, you will find that it would be necessary for some of those wells to last twenty or thirty years in order for the average life of those wells to be thirteen years. Now, the experience of the company has shown that of seven wells which were in service in 1919 all of them — gone.

Q. That is shown on page 233 of Defendant's Exhibit 42?

A. That is correct. And that of 10 wells which were in service in 1920—connected in 1920, eight of them are gone; that of 85 wells which were connected in 1921, 80 of them — gone; that of 100 wells which were connected in 1922, 89 of them are gone; that of 92 wells connected in 1923, 79 of them are gone; that of 67 wells connected in 1924, 54 of them are gone; of 54 wells connected in 1925, 42 of them are gone; of 46 wells connected in 1926, 24 of them — gone; of 78 wells connected in 1927, 40 of them are gone; of 79 wells connected in 1928, 29 of them are gone; of 100 wells connected in 1929, 18 of them are gone; of 141 wells connected in 1930, 17 of them are gone; of 116 wells connected

in 1931, 17 of them are gone, and of 26 wells connected in 1932, as of January 1, 1933, three of them are gone. In other words, there is not a single well which has lasted thirteen years up to January 1st, 1933.

[fol. 1932] Q. Then, obviously, if not a single well has lasted thirteen years, the weighted average life of Lone Star Gas Company gas wells could not be thirteen years.

A. There is no evidence to support that contention.

Q. Mr. Connor, what have you set forth on pages 234 and 235 of Defendant's Exhibit 42?

A. I have prepared what is termed a mortality curve based upon the experience set out on page 233, and from this curve I have developed a calculation of annual replacements rates of gas wells based upon the indicated life shown by actual experience of the wells.

Q. The calculation of the total annual replacement rates appearing on page 235 was not used as the basis for the computation of reserve accruals in connection with Exhibit 41?

A. No, sir. I did, though, make that determination, and showed by the determination that, had I pursued this method, the annual reserve accrual would have been substantially in excess of that which I have used.

Q. Mr. Connor, if we refer to Defendant's Exhibit 41, the next item of classification of property for which you have computed a depreciation reserve accrual is the classification known as Other Production System Structures evaluated at reproduction cost new in the amount of \$9,450.29, for which your annual rate of reserve accrual is 9.3 per cent and the annual amount required in dollars is \$878.88?

A. That is correct.

Q. This is a relatively small item, but I wish you would explain briefly the basis for your determination of the adopted percentage of 9.3 per cent.

[fol. 1933] A. That is shown on page 287 of Exhibit 42.

Q. Please relate briefly, Mr. Connor, what you set forth in connection with your determination of the calculated percentage of 9.3.

A. That is a sum of three per cents: Decline in per cent of New Condition of one per annum, Current Replacements two per cent per annum, and an Amortization in twelve years of the worth of the structure on a five per cent an-

nunity basis; the last item being 6.30 per cent, and the total being 9.30 per cent, as shown on page 1 of Exhibit 41.

Q. Mr. Connor, upon what basis did you make your calculation that the current replacements would be at the rate of two per cent per annum, and that the building should be amortized over a twelve-year period?

A. Well, Mr. Griffith, in connection with these small structures and items of this sort it was not possible to develop any experience data which would be reliable, because they vary so largely from year to year and from structure to structure, and this estimate is largely based upon my judgment as to what the total figure should be.

Q. The next item, of Other Production System Equipment, appearing on page 1 of Defendant's Exhibit 41, appears to be an evaluated reproduction cost new at \$95,764.08, and you have made an annual rate of reserve accrual of one per cent per annum on this item, amounting to, in [fol. 1934] dollars, \$957.64?

A. That is correct.

Q. What is the basis for that use of one per cent per annum as applied to Other Production System Equipment?

A. That is the declined per cent condition which has applied to the property as a whole. Mr. Biddison's estimate of the decline in per cent condition of the property as a whole, based upon the weighted age of the property at the time of his investigation, indicated a decline of approximately one per cent per annum per year of weighted age, and the decline in per cent condition new of the various items evaluated, as disclosed by Mr. Biddison's report; but I applied a uniform rate to each item of property, of one per cent, and the end result will be just exactly the same as if I applied individual rates to individual items. Now, that is the only accrual which I have set out for this class of equipment. Now, the reason for that is that the Company charges directly to operating expenses or to capital account the depreciation on this class of equipment, and it is, therefore, otherwise provided for in the operating expenses of the Company, and is therefore not proper to be included in this estimate.

Q. In other words, where a direct charge is made to [fol. 1935] operating expenses, to cover depreciation on an item of equipment, it would be a duplication to provide an annual reserve accrual covering the same expenses?

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2
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7

A. That is true; and in order to avoid the necessity of repeating the same explanation, I will say that the same thing applies to automotive equipment, which is shown on page 2 of Exhibit 41, with an annual rate of one per cent per annum. Well, it is perfectly obvious to any one who has ever owned an automobile, or driven one, that a depreciation allowance of one per cent per annum on an automobile would be utterly inadequate.

Q. Mr. Connor, the next classification of property appearing on page 1 of Defendant's Exhibit 41 is the Gathering System Property, and following that is the Transmission System Property, with the several classifications of each.

A. That is correct.

Q. Now, included in the Gathering System Property are the well lines?

A. That is correct.

Q. And the field lines?

[fol. 1936] A. That is correct.

Q. And the largest item in the Transmission System Property is, of course, the Transmission Line Equipment.

A. That is correct.

Q. In the amount of \$28,524.00, plus?

A. That is correct.

Q. Now, Mr. Connor, in your determination of the respective per cents for the annual rate of reserve accrual, as applied to well lines and transmission line equipment, did you use the historical experience of the Company as a basis for the determination of the annual rate of reserve accrual?

A. Yes, I did, in so far as the history of the Company's experience could be used for such a purpose.

Q. In connection with Line Equipment, under the heading of Gathering System Property, appearing on page 1 of Defendant's Exhibit 41, it is noted that your annual per cent for reserve accrual is the same as in connection with the Field Line Equipment—that is 8.6 per cent per annum?

A. That is correct.

Q. It is noted that in connection with Line Equipment, under the Transmission System Property appearing on page 1 of Defendant's Exhibit 41, that the annual rate of reserve accrual is shown to be 5.4 per cent?

[fol. 1937] A. That is correct.

Q. Now, in preparing mortality studies for steel pipe, have you used the same data as applicable, in a general and primary way, to the well line equipment, the field line equipment, and also the transmission line equipment?

A. Yes, to this extent, that where the experience of the Company would be applicable—equally applicable to each classification of property—that is, well lines, field lines, main lines and tap lines, I have used the same basic information, and the factor which is commonly applicable to each class of property is the rate of replacement of the pipe which would be caused primarily by the physical condition of the pipe. It is hardly necessary to explain that steel pipe, whether used for one thing or used for another, will deteriorate, from the standpoint of physical deterioration, in about the same way. Now, as I develop my explanation it will be made clear that there are other factors which must be taken into consideration in connection with well lines and field lines which do not apply to main lines; but there is one factor, and that is the deterioration of the pipe itself, which is equally applicable to each of these classes of property.

[fol. 1938] Q. That is, pipe would deteriorate to the same extent, whether it were classified as a part of a field line, a part of a gathering line, a well line, or a part of a transmission line?

A. Yes, and in most cases as a part of a distribution system.

Q. Mr. Connor, what is the factual basis for your determination of the primary rate of reserve accrual for depreciation only or deterioration only, as applied to steel pipe?

Q. The basis for the deterioration only which I have applied to steel pipe is Mr. Biddison's determination of per cent of new condition, because that indicates the deterioration which has taken place in the property and which has not been offset by replacements. Now, the factor which I took into consideration with reference to replacement of pipe by reason of the condition of the pipe was based upon the experience of Lone Star Gas Company, as far as I was able to develop that experience, together with the collateral information which I secured from an examination and study of the records of more than 240 distribution plants which are located contiguous to the Lone Star Gas Company's System.

Q. Where in your Exhibit 42 do you set forth, either in [fol. 1939] a statistical way or by means of curves or graphs, the underlying basis for your determinations in respect of an allowance of 8.6 per cent per annum covering the well lines and well-lines rights of way including in the Gathering System Property on page 1 of Defendant's Exhibit 41?

A. Well, Mr. Griffith, it will be somewhat difficult to make an exact segregation in Exhibit 41, for the reason that—

Q. Exhibit 42?

A. Exhibit 42, for the reason, as I have previously stated, that certain fundamental factors were developed both for field lines, well lines, main lines, and tap lines; then there was a specific and particular study made of the peculiar circumstances which would surround the experience of well lines and field lines.

Q. Well, in any way that seems to you most feasible, Mr. Connor, I wish you would outline, in a general way, to the jury the method of your determination of these respective per cents as applicable to well line equipment, field line equipment, and the transmission line equipment.

A. I will first take up a discussion of the basic rate which I have determined for all steel pipe with reference to the annual rate of replacement which in the future will [fol. 1940] be required by reason of the condition of the pipe itself, and that determination, as I have previously stated, will be applicable to all the steel pipe in the System, whether it is part of the main lines, tap lines, well lines, or field lines. On page 28 of Exhibit 42 there is shown a tabulation which sets out a recapitulation of the pipe replacements, removals, and abandonments, by years, sizes, and feet of pipe, from the beginning of the Company's operations in 1909, to July 1st, 1933. It is shown that when the amount of pipe replaced, removed, or abandoned in the system of Lone Star Gas Company is reduced to footage of pipe of 3-inch equivalent diameter that that footage will be 7,902,647 feet.

Q. That would be approximately how many miles of equivalent 3-inch pipe, Mr. Connor?

A. About 1200 miles.

Q. About 1200 miles of equivalent 3-inch pipe?

A. Perhaps more than that. Now, on page 29 there is set out a similar recapitulation, which confines the determination to the amount of replacements, removals and

abandonments which have taken place within the period specified in the main lines and tap lines of the System.

[fol. 1941] Q. And this tabulation likewise shows a recapitulation of the replacements beginning with the commencement of the Company's operations, back in 1909 or '10, and comes up to July 1st, 1933?

A. That is correct; and it shows that in the main lines and tap lines, as classified by the Company's property accounts that 6,066,627 feet of equivalent 3-inch diameter pipe have been removed, replaced or abandoned in these respective property classifications. On page 30 there is shown a recapitulation which refers solely to the main line of the System as defined by the account classifications of the Company, and shows that 5,362,659 feet of equivalent 3-inch diameter pipe have been replaced, removed or abandoned.

Q. Would that be in excess of 1000 miles of main line replacements, abandonments or removals?

A. That is correct. Now, I have previously stated that the records of the Company are not clear with reference to a distinction between tap lines—tap line and main line replacements; in other words, if they have the A system, and a replacement is made on Line A:1—

Q. Which is a tap line?

A. A tap line off of Line A—that replacement or removal is charged to the A System, rather than to a specific [fol. 1942] tap line; so that you will find in this recapitulation of main line replacements certain small diameter pipe which is unquestionably a replacement or a removal or an abandonment of a tap line, as distinguished from the main line itself, but by combining the two and taking the total feet in main lines and tap lines, and combining the replacements, removals, and abandonments, any error which might arise by an improper classification as to which is which will be eliminated. However, I was able to determine with a certain degree of accuracy the number of feet of tap lines which had been replaced, removed, abandoned, and they are shown on page 31. It shows the 703,966 feet of equivalent 3-inch diameter pipe have been removed, replaced or abandoned in the tap lines of Lone Star Gas Company, in so far as it was possible to identify those casualties specifically to tap lines.

Q. Now, these replacements, retirements, removals, or abandonments of main and tap lines which you have just testified to, are those abandonments, retirements, removals,

or replacements which have taken place by reason of every known cause?

A. That is correct; they include the replacements which have been made necessary by public requirements, changed operating conditions, as well as the condition of the pipe.

[fol. 1943] Q. What do you mean by "changed operating conditions", Mr. Connor?

A. In the natural gas business in the depletion of a gas field, the consequent situation which arises therefrom will necessitate the removal of large property items from one place to another.

Q. In other words, when there isn't any more gas in the field, why, the Company takes up the pipe and removes it?

A. That is right; and that sometimes affects not only well lines and gathering lines, but the main lines themselves. Quite frequently tap lines have to be taken up and removed by reason of public requirements, changed highways, and things of that sort. Now, a similar determination is shown on page 33, for field lines, and it shows that on page 32 there is a combined history of field lines and well lines. Now, in this exhibit I have designated certain lines as field lines. Mr. Biddison and Mr. Steinberger, in connection with their testimony, have designated those lines as gathering lines. So when I refer to a field line in connection with this exhibit I am talking about the same sort of gas line that Mr. Biddison was talking about when he referred to a gathering line. Now, the difference between a gathering line [fol. 1944] (or a field line, as I have called it) and a well line is that a gathering line is a line that is designated as the line which will go into a given area—gas producing area for the purpose of taking the gas delivered by a number of smaller lines which are attached to individual wells. Now, just as in the case of the main lines and tap lines, the Accounting Section does not always segregate the replacements on well lines and field lines, and so, while I was able to make a fairly close determination of the relative amount of pipe which had been replaced, removed or abandoned which could be specifically ascribed to field lines and to well lines, it was not possible to make an exact determination; so it was necessary for me to combine the experience of the field lines and the well lines, which are similar in their service characteristics, just as it was necessary for me to combine the main lines and the tap lines, as I have previously explained.

[fol. 1945] Q. As shown on page 32 in your summary of Field and Well Line Replacements, Removals, and Abandonments, have you summarized all of the historical replacements, removals, and abandonments which have actually taken place on the field lines and well lines in the Company's experience?

A. That is correct; and as far as I was able to do so, by an examination of all records having to do with this particular thing.

Q. Now, Mr. Connor, does this tabulation show that the Company has actually replaced, removed or abandoned approximately 350 miles of 3-inch equivalent pipe on the field and well lines?

A. That is correct. My first rough estimate as to how many miles of pipe had been replaced, removed, or abandoned was entirely too low.

Q. As a matter of fact, it is about 1400 miles, isn't it?

A. That is correct. Now, I have stated that these historical experiences which are *shere* by these figures included replacements, removals and abandonments from all causes. Of course, in field lines there would be a greater movement of pipe from one place to another than there would be in the case of main lines, by reason of the fact that as individual gas fields play out and become depleted, it would be necessary to remove those lines. In the case of well lines there would be a still greater removal, abandonment, and [fol. 1946] changing, due to the fact that a gas well does not last very long—at least, that has been the experience of Lone Star Gas Company. Now, the history of the main lines and the tap lines is much clearer with reference to what has actually happened. You can go into the records of the Company, and from the experience of a person who has actually been connected with the Company over a number of years, you can trace what has actually happened to the pipe in the main lines and tap lines with a much greater degree of accuracy than you can in the well lines and field lines. Now, in order to make a determination of what the experience of the Company has been with reference to the replacement of pipe by reason of the physical condition of the pipe, it was necessary to find out, if possible, just what part of this total removed and abandoned footage I set out was actually caused by the condition of the pipe.

Q. That is the deterioration of the pipe, as distinguished

from abandonments and removals necessitated by changed operating conditions or public requirement?

A. That is true. Now, in the main line system and in the tap lines of the Company, there is a large amount of pipe involved, much greater than in the gathering lines and well lines, and having a better record of what actually happened in the case of the main and tap lines, I confined my analysis of the experience of the Company with reference to replacements of pipe by reason of the condition of the pipe to the main lines and tap lines; and assumed, and properly, that if on a large amount of pipe—sixty million feet of 3-inch equivalent diameter pipe, nearly—that if something could be developed that would indicate the future behavior of that pipe, that that finding would be applicable for that particular purpose to the well line and field line pipe; and that is the premise upon which I started.

Q. You meant six million feet, didn't you?

A. No; sixty million feet of 3-inch equivalent diameter pipe, because there is about that many feet of 3-inch equivalent pipe in the main lines and tap lines of the Lone Star System, I think.

Q. Referring to page 29, it appeared that the replacements, removals, and abandonments have actually been six million feet?

A. That is right there. Now, in order to make that study I had to go back and make an analysis of each and every replacement, removal, and abandonment that had taken place in the main line and tap lines of the Company.

Q. That is for the purpose of determining just what caused the removal?

A. That is correct; and in doing that I have searched old records, to get into the map records of the Company at the time it was organized, and got hold of the men who [fol. 1948] in the field actually changed the pipe and removed it, in order to make a determination of what actually took place in the case of each removal. Now, in a great many cases, pipe would be removed and transferred to the warehouse; and so far as I was concerned, its identity then became lost, except there was a disposition made of the pipe as junk at the time it was transferred to the warehouse, because the Company when it moved from its offices downtown in Dallas up to its home on Wood Street destroyed a lot of those old material transfer records, which, of course,

were useless and had no bearing upon the accounting records of the Company or the operation of the Company. It is true, however, that a certain percentage of that pipe which was transferred to the warehouse was subsequently junked as unfit for use, and I have not taken into consideration, in connection with the assignment of pipe as pipe junked and abandoned, the pipe which might have been junked after it had been transferred to the warehouse. The result of the study which I have made in connection with the main lines and tap lines of Lone Star Gas Company, relative to what actually happened to that pipe, is shown on page 79.

[fol. 1949] Now, the term "replacement", as applied to the [fol. 1950] pipe in the system of Lone Star Gas Company, is intended to include the removal and replacement of pipe, either by pipe of the same size, or by pipe of a larger or smaller diameter than the pipe replaced. In each case of replacement, as herein used, there have been no changes in the designations of the lines affected by the replacements, nor in the general location of the line in which the replacement has been made. In other words, if there is a piece of pipe taken up, and another piece of pipe put back in the line, and the line has not been changed and it remains where it was before, I have designated that as a pipe replacement. Now, these replacements have been brought about by three things, as I have previously explained: the physical condition of the pipe, changed operating conditions, and public requirement. Now, the term "Removal" is intended to cover the complete removal of a designated unit of the pipe line system and the use of the pipe and fittings thus removed as a part, or the whole of another designated unit of the pipe line system. In other words, if we take up a section of pipe line at once place and take it to another place and give it another letter, I have designated that as a Major Removal. The word "Abandonment" is intended to cover the abandonment of pipe in place in any designated line, the abandonment of the line itself as a unit or service, and the total or partial removal of the pipe and [fol. 1951] fittings and the subsequent transfer of the material removed to warehouse stock as second hand or salvaged material. Now, I think I have made clear, or at least I have attempted to, that I went into the records of the

Company and found out how many feet of the pipe line in the main lines and tap lines had been replaced, removed, and abandoned; then I found out what had happened to the pipe, and what they had done with it after it was removed or abandoned; and that is covered by the tabulation I have just described.

Q. On page 79?

A. On page 79. Now, steel pipe, I think everyone knows is a type of material which once placed in the ground becomes subjected to the effect of external factors, and these external factors have a tendency to a greater or less degree, dependent on where the pipe is located, to bring about the ultimate destruction or deterioration of that pipe. Now, that is a more or less gradual process, and does not become evident as a whole during the earlier years of the life of the pipe, but becomes a greater and greater element of destruction as the life of the pipe becomes extended; and so, if we could have a complete history of all the steel pipe that had ever been laid, it would be found that during the early years of the life of the pipe there were few replacements, [fol. 1952] and that as the pipe got older the replacements gradually increased as the age of the pipe increased, and that as the pipe became still older finally it would entirely disappear and be worthless. But, of course, in a natural gas pipe line system, which is operated continuously and renders a public service, a condition of that kind could never be allowed to exist. In other words, whenever a piece of pipe in the system of Lone Star Gas Company reaches the stage where its replacement is necessary, this replacement is made and the pipe line, be it designated A Line, B Line, or C Line, might last forever through a succession of replacements of the pipe as the necessity for the replacements arose. Now, one of the most important things in connection with the whole study is to determine the behavior of steel pipe relative to this condition which I have explained, and that is the effect of corrosion, and rust, and decay upon that pipe.

[fol. 1953] Q. And did you first determine that effect of rust, corrosion and decay on the pipe in arriving at your ultimately adopted and determined rate of reserve accruals?

A. Yes, sir; that was the basis for the determination. Now, inasmuch as pipe deteriorates with reference to time as well as with reference to peculiar local conditions, it was

necessary to learn how long this pipe had been in service, so that was the next step which I took—to learn exactly, if possible, when each line was laid, so that I would know the age of the pipe in the system and could relate the age of the pipe to the experience developed by the replacement of the pipe, because those two things were absolutely interdependent, at least to a large extent.

Q. Does an insurance company or do insurance actuaries in the determination of insurance premiums do virtually the same thing in respect to the lives of men?

A. That is correct. Now, there are many billions of dollars in the United States invested in steel pipe laid in the ground and there are millions and millions of dollars expended every year for the replacement of pipe brought about by the corrosion of the pipe; but, peculiar as it may seem, despite the importance of knowing that, very little information has ever been correlated and brought into such shape that an engineer could tell anything definitely about those factors which might control the life of pipe, and I guess the reason for that is that conditions vary so widely from one place to another that what would be applicable [fol. 1954] to one part of the country would not be applicable to another part of the country, and so that a study to be of any value would have to be of the specific property under consideration, because, as one of the leading authorities on the corrosion of pipe has stated, there is a difference of from 1 to 24 in the rate at which pipe will corrode, based upon studies made, depending upon what part of the country the pipe is laid in.

Q. To a large extent is corrosion of steel pipe determined by the character of soil in which it is located?

A. It is determined altogether by the conditions external to the pipe at the place at which it is laid. I say "altogether"; I mean almost altogether. The manufacture of steel pipe has developed to such a point that there is practically no variation in the pipe itself, and the rate of corrosion of steel pipe is dependent entirely upon conditions existing at the point at which the pipe is located. Now, there might be some extraordinary situation where internal corrosion might take place, and does take place, but they are factors external to the pipe. I mean internal corrosion as well as external corrosion.

Q. Now, Mr. Connor, you thereby determined the serv-

ice years of the main lines and tap lines of the Lone Star Gas Company as of January 1, 1933?

A. I took all the lines into consideration—tap lines, main lines and field lines—and ascertained the date when those lines were put into service. I went a step further than that, because certain of the lines have been purchased by Lone Star Gas Company, and these lines had a certain age [fol. 1955] up to the time they had been acquired by Lone Star Gas Company, and their actual age was not represented by the time in which they have been a part of the Lone Star Gas Company system, so I made a separate analysis of that factor, which I will subsequently explain in detail, and I also made a determination of the length of time each of the lines had been in service in the Lone Star Gas Company system until replacements had been made and which were included in my summary but which had been removed and were no longer in service.

Q. Where in Defendant's Exhibit 42 have you set forth the historical data relating to the service years of main lines, tap lines and other lines as of January 1, 1933?

A. Beginning on page 36 and extending through page 46 I set out in detail, both in tabular form and in graphic form, a series of charts and a series of tabulations of the actual rate of growth of the various pipe line systems and designated as being part of the Lone Star Gas Company property. On page 38 is a graph which shows the rate of growth of the combined pipe lines, including main lines, tap lines, field lines and well lines, in the system from the date of the company's organization up to the date January 1, 1933, and the graph shows the year at the bottom and the percentage of total pipe in the system in the vertical right-hand scale.

Q. Now, Mr. Connor, having made that determination of the average or weighted age of the property included in the pipe line system, how did you make use of that information?

[fol. 1956] A. This, Mr. Griffith, is not a determination of the weighted age; it simply shows the per cent of pipe of various classes in service each year, and total proportion of pipe now in service which was in service each year from the time of the company's organization.

Q. It would serve as a basis for determining the weighted age?

A. Yes, sir. I have also determined the weighted age. With the age of the pipe, the number of feet which has been installed in various years, and the actual pipe which has been replaced determined in so far as replacements were controlled by the condition of the pipe, I was in a position to attempt, at least, as far as that information would permit me to proceed, to make what is commonly called a mortality curve which would indicate the behavior of that pipe under the conditions imposed by the service. Now, a mortality curve may seem very complicated, but it is not. It is simply a picture of the percentage of an original group which would survive a given number of years of service. Now, that mortality curve was developed by me from the information which I had in hand. It was checked for its accuracy and as to its direction and general behavior by studies which I have made of the pipe line replacements in the distribution system of the Fort Worth division of Lone Star Gas Company. It has subsequently been checked by similar mortality curves, which have been based upon the experience of more than 240 natural gas distribution plants.

Q. In this territory?

[fol. 1957] A. In this territory.

Q. And have you set forth in Defendant's Exhibit 42 a mortality curve of pipe as developed by you from the historical experience of the company?

A. That is correct; and that is shown as a part of the graph on page 57; and I may state in that connection that it is the identical curve which I used in connection with my testimony in the hearing held at Fort Worth.

Q. By the Railroad Commission of Texas in Gas Utilities Docket No. 75?

A. Yes, sir. I have, since the time I prepared this, investigated the experience of sixteen million feet of pipe in distribution plants in service over a period ranging from twenty years to one-half year, and I found nothing to lead me to make any modification of it.

Q. Mr. Connor, if we refer to the findings, opinion and order of the Railroad Commission of Texas in Gas Utilities Docket No. 75 we find on page 61 hereof the following language: "In arriving at his mortality curve and the resulting 25-year average life for steel pipe, Mr. Connor

was largely influenced by a mortality curve which he had previously worked out for steel pipe in the Fort Worth Distribution System and which curve had a 20½-year average life. In fact, it can be fairly stated that the characteristics of Mr. Connor's 25-year average life mortality curve for steel pipe in the Lone Star Gas Company Transmission System were largely determined by the characteristics of [fols. 1958-1959] the 20½-year average life mortality curve for steel pipe in the Fort Worth Distribution System. Yet Mr. Connor testified that the factors which affected the mortalities of pipe in a city distribution system were entirely different from those which affected mortalities in a transmission system. He testified further that only some sixty per cent of the mortalities in the Fort Worth System had been caused by deterioration." Now, Mr. Connor, did you so testify?

* * * * *

A. I so testified.

* * * * *

[fol. 1960] Q. Did you actually use the mortality curve developed on the Fort Worth Distribution System for the mortality curve which you applied to the Transmission System of the Lone Star Gas Company?

A. I used it as a guide, and it was helpful, but the point I wish to make is as to the mortality curve which I used in connection with the Fort Worth Division. The inference in the Commission's order is that that was a mortality curve based on the historical experience and that forty per cent of the total replacements were caused by other factors than the condition of the pipe. Now, as a matter of fact the basis information upon which that curve was prepared was a study made by myself and Mr. Goodson of the firm of Haskins & Sells, wherein we took the voucher records of the Fort Worth Gas Company from the date that that company went into business as a natural gas company through the year 1928 and gave no consideration to any [fol. 1961] piece of pipe other than the pipe which was junked.

Q. In other words, you gave consideration in that curve only to the pipe which was junked and abandoned by reason of deterioration?

A. Plus an allowance of ten per cent. Now, the investigation that Mr. Goodson and I made at that time primarily was not for the purpose of determining how much pipe had been junked and abandoned in the Fort Worth System. We were making the investigation to determine how much pipe was then in the Fort Worth Distributing System. There was a dispute as to the amount of pipe in that system. We therefore took the purchase of pipe and then we took the ultimate disposition of the pipe from the beginning of the company's history. Now, all the pipe which was taken up in that system and transferred to the warehouse was given no consideration whatsoever by Mr. Goodson and myself, and the basis for the mortality curve which is referred to by the Commission's order was predicated solely upon pipe which was junked and abandoned.

* * * * *

[fol. 1962] Q. Please refer to the mortality curve which you have determined, as set forth on page 57 of Defendant's Exhibit 42, and explain that curve, Mr. Connor.

A. Curve A-B shown on page 57 is a graphic delineation of my interpretation of the experience of Lone Star Gas Company pipe with reference to the failure of pipe due primarily to the condition of the pipe. Now, the actual experience of the company, of course, could not extend beyond approximately twenty-three and a half service years, as shown at the bottom of this page.

[fol. 1963] Q. Because that has been the period of the Company's corporate existence?

A. That is correct. And there are no data which would give you anything further than that, with reference to that experience. Now, from that curve I have derived what is called a distribution curve of annual replacements, the annual replacements being the replacements which would be indicated by the slope of the curve for the corresponding year. Now, a property of this kind can not be permitted, as I have stated before, to pass out of existence; replacements must be made, and the calculated reserve to accruals are predicated solely upon the assumption that this property will be perpetually maintained as it is, in so far as its physical condition is concerned. So that we have a situation wherein we must determine ultimately the rate of replacements of replacements, because after a piece of line composed of a large number

of units of pipe has passed entirely out of existence so far as the original units are concerned, and the line itself is still in service, the pipe which will then be in service will be replacements of the original units, and such replacements as will be made thereafter will be replacements of replacements; and that cycle would continue as long as the property remained in service.

Q. In other words, in some particular sections of a pipe line there might be a series of replacements of individual joints of pipe?

A. That is correct.

Q. Over a period of a number of years there might have been a particular section of the pipe line — might have been replaced as many as four or five times?

A. That is correct. Now, this calculation is based on an assumption which is usually made in determinations of this sort, and that is that the behavior of the replacement will conform to the behavior of the original unit, or the property as a whole; in other words, if you make a replacement in a piece of pipe line system you will assume that the units of that replacement will have the same type of experience in the matter of replacements that the entire line or the entire system might have; and it is upon that assumption that the calculations have been made which will determine the future annual rate of renewal of pipe. The calculations, which are rather extended, are shown on pages 58 and 59. Now, since the preparation of this report, or at least during the past year Mr. P. McDonald Biddison and myself have been making a series of investigations [fol. 1965] covering the applicability of the assumption which I have made—that is, that the replacements will perform as the average of the whole system to the steel pipe laid in this territory. And we have reached the conclusion that that assumption will not hold true, and that the actual rate of replacement of pipe will be greater than that indicated by the assumption that the pipe which goes back into the System as a replacement will take on the characteristics of the System as a whole.

Q. In that respect would you say that your mortality curve is conservative?

A. To that extent it is, yes, sir.

Q. Now, does your mortality curve on page 57 of Defendant's Exhibit 42 indicate the average life to be expected

of steel pipe in this territory and on the Lone Star Gas Company System?

A. Yes, it indicates the mathematical average of the life of steel pipe in this System upon the assumptions which I have outlined.

Q. And what is that average life of steel pipe determined to be, as reflected by the mortality curve on page 57 of Defendant's Exhibit 42?

A. That is shown to be twenty-five years.

Q. In the order and opinion of the Railroad Commission and in its findings, in evidence in this case, what did the Railroad Commission of Texas determine to be the average [fol. 1966] life of steel pipe on the Lone Star Gas Company's System?

A. Thirty-three and one-half years.

* * * * *

Q. Now, Mr. Connor, having determined that the average life of steel pipe on the Lone Star Gas Company's System was twenty-five years, how did you proceed to utilize that information in connection with your determination of the annual reserve accrual rates?

A. I made the computation shown on pages 58 and 59, and from those computations developed the future annual renewal rates which are shown on page 60.

Q. Then, having determined the annual renewal rates for steel pipe as shown on page 60, how did you make use of that information?

A. That information was subsequently used in the second section of the report. However, I also developed a curve which would take care of the replacements, removals, and abandonments of pipe for causes other than the physical condition of the pipe.

Q. And at what page in your exhibit is that curve disclosed?

A. That is on page 63.

[fol. 1967] Q. Is that likewise based upon the historical experience of the Company up through the twenty-three and one-half years of its corporate existence?

A. That is correct. Now, that curve was prepared independently for well lines and field lines, and main lines and tap lines. The primary curve of replacements, which has to do with the condition of pipe solely, applies to all lines alike.

Q. Did you prepare any other curves based upon the historical experience of the Company, in connection with replacements, abandonments, and removals, and which curves appear in your exhibit?

A. That is correct; it is on page 68; that is a curve for replacements, removals, and abandonments of field lines and well lines, due to causes other than the condition of the pipe.

Q. And what does that show, that graph or curve on page 68, Mr. Connor?

A. That shows an ultimate average rate of replacement, removal, and abandonment for causes other than the condition of the pipe, indicated by the history of the Company, to be about fourteen per cent per annum—fifteen per cent, plus, per annum.

Q. Now, in connection with your determination—

A. No; no, I beg your pardon; I was reading from the [fol. 1968] wrong scale. It is about six per cent per annum.

Q. In connection with your determination of annual rate of reserve accruals on steel pipe, did you develop any other curves which are set forth in the exhibit?

A. Nothing except those which would be merely explanatory, and a graphical delineation of some of the subject-matter which is set forth in tabular form; it has nothing to do with the calculations themselves.

Q. Now, Mr. Connor, you have explained to the jury how you arrived at your determined mortality curves and determined mortality rates for steel pipe arising by reason of deterioration, and also by reason of the removals, abandonments, replacements, or retirements brought about by changed operating conditions, as well as such retirements, replacements, removals, and abandonments as are brought about by public requirements.

A. That is correct.

Q. Now, having determined those three factors, were you then able to arrive at a basic factor to be applied in connection with the annual rate of reserve accrual for steel pipe?

A. Yes.

Q. And where in your Exhibit 42 do you make that application of those several factors?

A. Well, Mr. Griffith, before I did that—made that application, I made a number of checks upon the work which I had done, in order to determine whether or

not the calculations which I had made would conform to the experience of the Company when applied to a pipe in the System of the Company, after giving effect to the age of the pipe in service.

Q. What were those checks you made to determine the correctness of your findings?

A. First, I had to determine what I call the effective service years of the main lines and tap lines in the system.

Q. Where does that appear in Exhibit 42?

A. That appears on pages 82, 83, 84, 85—it extends to page 96.

Q. Now, Mr. Connor, the tabulations appearing on pages 82 to 96, inclusive, seem somewhat comprehensive, but can you relate to the jury, in a general way, just what you did in the matter of making checks upon your developed mortality curves?

A. Yes, I think that I can. I show on page 82 the miles of equivalent 3-inch diameter pipe both in main lines and tap lines which are now in service which were installed in various years. Now, there are certain adjustments which I made to that. I determined the age—the actual age at which a [fol. 1970] certain number of lines purchased by Lone Star Gas Company, the actual time at which those lines had been originally installed, and, of course, their actual life was older than the actual service life they have had in the System of the Lone Star Gas Company. However, the actual retirements which would be applicable to those lines would only be applicable to the number of years they had been in the service of the Lone Star Gas Company, because there is nothing included in my tabulations for replacements made in those lines prior to their acquisition by Lone Star Gas Company. So I put them in the System at their true age with reference to the time they were constructed, but only leave them there for the period of time for which they had been owned and operated by the Lone Star Gas Company. The effect of that adjustment is shown in Table 2, page 85. Now, I take those lines out and treat them independently, because they require an independent application of my replacement rates. On pages 86 and 87 I describe how I took care of certain lines which had been laid and which had been replaced and removed and were not in the System as of the date of this appraisal; but I put them back in the System in order to apply the proper replacement rates against them. And those lines, [fol. 1971] too, had to be treated independently, and a sepa-

rate calculation made for them. Now, the final adjustments are shown on page 95.

Q. In what you denominate to be Table 4?

A. Table 4. Now, there was one other adjustment which I made and which is explained in the text, and that is that two lines in the System—three lines in the System, Line H, Line B, and Line C, were taken up after they had been in the ground for a certain number of years, the bad pipe was culled out of the line, the good pipe was thoroughly cleaned and reconditioned and repainted, and put back into the line; and on account of the fact I have estimated that the service life of those lines so treated would be reduced by reason of the reconditioning to which they were subjected.

Q. Now, these reconditionings of those particular lines that you have enumerated, would that be characterized as a major rehabilitation?

A. That is correct. And I merely assumed that those lines—to Line H that same thing had been done to it twice, and Line C and Line B had been rehabilitated in the years 1917 and 1918, and I assumed that that repainting and reconditioning of those lines shortened their service life by two years.

[fol. 1972] Q. Do you believe that that is a rational assumption?

A. I think it is a very conservative assumption, yes. Now, taking the footage of pipe shown to be installed in each year from 1910 through 1933—1932, on page 95, I then applied to that the replacement rates which I calculated would be the replacement rates for pipe in service upon having reached that age.

[fol. 1973] Q. Mr. Connor, please refer to page 169 of Defendant's Exhibit 42. What is disclosed on that page?

A. On page 169 there is shown the result of the application of an annual rate of 5.40 per cent, and the calculated annual charges expressed as a per cent of reproduction cost new, main lines and tap lines, the corresponding balance by years expressed as a per cent, and a calculation which shows that a five per cent interest was compounded on the balance accrued by years; and represented by the difference between the calculated annual charges and the annual accrual, and that even with the application of a five per cent compound interest accumulation, that the credit balance would never

equal that sum of money which would be equal to the decline in per cent of new condition which will take place in the property.

Q. Irrespective of maintenance and repair?

[fol. 1974] A. That is correct.

Q. Now, if we refer to page 1 of Defendant's Exhibit 41, do we find that you carried forward to that page your adopted annual rate of 5.4 per cent and applied it to the transmission line equipment?

A. That is correct, and in so far as the transmission line equipment is indicated on page 1, that also includes the tap line equipment.

Q. And it also includes the rights of way, does it not?

A. That is correct.

Q. Now, Mr. Connor, you testified this morning that in arriving at the ultimate rate or per cent which you adopted for credit to depreciation reserve account that you took into consideration the several factors which brought about the abandonment, removal and retirement of steel pipe?

A. That is correct.

Q. Those factors being the deterioration of the pipe caused by rust, rot and decay, and the removals, or abandonments and retirements caused by changed operating conditions or public requirements, and that you also took into consideration the decline in per cent condition of the pipe, which would accrue regardless of age?

A. That is correct.

Q. Now, did all of those factors enter into and constitute part of your ultimately adopted rate of 5.4 per cent?

[fol. 1975] A. Not directly. They were a component part of the figures shown in Column B on page 169, which represented the estimate of the charges which would be made to the reserve account by reason of the accumulated effect of all of these factors. Those were the charges which I estimate will be made against the reserve account by reason of these factors; the 5.4 per cent is the accrual which will be necessary to provide for those charges expressed as a uniform annual charge. It will be noted on page 169 that the figures in Column B are variable figures from year to year, and the purpose of a reserve accrual is to set up a uniform annual charge to operating expenses which will even out those very variable charges which will take place by reason of the replacements, removals and abandonments of property.

Q. Refer to pages 161 and 162 of Defendant's Exhibit 42. What have you shown on those pages?

A. On pages 161, 162, and 163, I have shown the results of a series of calculations applying to the miles of pipe in service in the main transmission lines and tap lines at the year in which it was installed, the percentages of annual replacements corresponding to that age of pipe, taken from my adopted mortality curve, and by applying those rates which change for each successive year as the property gets older, from 1934 through the year 1955, I determine the calculated amount of pipe which my mortality curve indicates [fol. 1976] will in the future be replaced during those years; and I then expressed that mileage of pipe as a percentage of the mileage of pipe in service as of January 1, 1933.

Q. Mr. Connor, if we refer to pages 144 and 145, do you there show your application of a percentage factor which enters into your determination of annual reserve accrual, and which percentage factor is arrived at as only covering the deterioration of the pipe?

A. Yes, sir; the figures on page 144, which shows the per cent of miles in service, are taken directly from the calculations shown on pages 161, 162, and 163, which I have heretofore explained. Those figures vary from .99 to 5.72 per annum, showing the variation in the calculated annual replacement rates as the time or the age of the property progresses.

Q. Did you take an average of those percentages determined for each year in arriving at your depreciation rate for deterioration only?

A. I took an average, which is 3.54 per cent, that being the average rate determined by the method heretofore described, from the year 1934 to the year 1955. Had the calculation been continued over a longer period of time, the average percentage would have approached 4 per cent as a limit.

Q. And you use this determined rate of 3.54 per cent as one of the factors in arriving at your adopted per cent of 5.4 per cent on page 1 of Defendant's Exhibit 41?

[fol. 1977] A. Yes; because it entered into the figure—those figures shown on page — it entered into as a part and was a part of the figures shown in Column B, page 169.

Q. Now, Mr. Connor, in addition to deterioration of pipe, you stated that the next factor which makes for the retirement, removal, and abandonment of pipe, is changes due to changed operating conditions, and the removals, abandon-

ments and retirements caused by public requirements. On pages 164 to 166 of this exhibit do you make a calculation of the retirements for such causes?

A. Yes. I have applied to the feet of pipe in service as of January 1st,—the miles of pipe in service in main lines and tap lines as of January 1, 1933, assigning to that pipe the year in which it was actually laid in the system, and I have each year thereafter, beginning with 1934 and continuing through 1955, applied the calculated annual rate determined from mortality curve No. 2, in order to provide for what I consider would be a proper annual rate to provide for the element of removals, and replacements due primarily to factors other than the condition of the pipe.

Q. On pages 146 and 147 do you show your adoption of a percentage factor covering removals, abandonments and replacements brought about by changed operating conditions or by public requirements?

[fol. 1978] A. That is correct. I used the factor .94 per cent per annum.

Q. And how was that determined?

A. That is determined by an average of the annual rates from 1934 through 1955.

Q. And which annual rates are set forth at the bottom of page 146 and the top of 147, of Defendant's Exhibit 42?

A. That is correct. Had these calculations been continued, as previously explained, with reference to the determination relative to the removals due to per cent of new condition, this annual per cent would have approached 1.60 as a limit.

Q. Mr. Connor, you testified this morning about major rehabilitations of property—that is the entire removal of large main transmission lines. At page 148 of Defendant's Exhibit 42 do you show the development of a factor which enters into your annual depreciation percentage covering transmission line equipment, which factor grows out of the probability of major rehabilitations?

A. I do.

Q. And what does it amount to, expressed as a percentage, and how was it determined?

A. It was determined upon the basis of the amount of expenditures in the past divided by the number of miles of service years of 3-inch equivalent diameter pipe. The expenditure was \$570,000, and it was divided by 95,071 miles

[fol. 1979] service years; and the ratio finally determined by that method was .202 per cent per annum for this factor.

Q. In other words two-tenths of one per cent plus?

A. That is correct.

Q. Now, this determined percentage you say was based upon the actual expenditures of the Company for major rehabilitation from 1910 to 1933?

A. That is correct.

Q. And in the actual historical amount of approximately \$570,000?

A. That is correct.

Q. Now, Mr. Connor, you also spoke this morning of another factor which entered into your finally adopted rate of 5.4 per cent as applied to the transmission line equipment. What was that other factor?

A. The decline in per cent of new condition which will take place in this property subsequent to the time that Mr. Biddison made his examination, and which decline in per cent of new condition cannot be offset by repairs and *and* replacements of property items in the system. In other words, the property will gradually decline in per cent of new condition until it reaches a point, which is nearly always reached in the life of a property, when thereafter it will remain at a constant value, by reason of the replacements that are made [fol. 1980] and the repairs; but until that point is reached, there will be a gradual diminution in the value or worth of the property, and it will be disclosed by an inspection of the property. Now, that factor, unlike the other factors to which I have been referring, will stop at some definite period of time, and as will be subsequently explained, I do not carry that factor forward past the estimated period of time at which I believe the property will become static with reference to its per cent of new condition.

Q. And when do you determine that the property will probably arrive at a static condition in respect of its per cent of condition new?

A. I estimate that to transpire in the year 1948 probably; and in connection with that, the reserve accrual required for that item should always be free capital;—that is, money which the company could use without accumulating interest upon it.

Q. Your determination then of annual reserve accruals does not contemplate that the money accrued in any depreciation reserve account would be funded?

A. No; I merely show on page 169 that if the money credit balance which I estimate would accrue should be funded and compounded at five per cent, that it would not equal at any time that amount which should be provided as free capital to take care of the decline in per cent of new condition.

[fol. 1981] Q. Now, the factor which takes care of decline in per-cent of condition, when taken into consideration along with the other factors you have mentioned—that is, the deterioration of the pipe, the removals, replacements and retirements brought about by public requirement, by changed operating conditions, and by major rehabilitations, finally determines your adopted rate of 5.4 per cent per annum as applied to the transmission line equipment, the tap lines, and rights of way, on page 1, of Defendant's Exhibit 41?

A. They do with certain modifications which are set out in detail on pages 149, 150, and 151, and I think through page 160.

Q. Of Exhibit 42.

A. Of Exhibit 42. Now, in brief, those factors are these: In making a replacement in a pipe line system the cost of making that replacement is substantially in excess of the unit cost found by a reproduction cost estimate. The reason for that is that replacements are made in comparatively small sections—that is, comparatively small as compared with the length of a large pipe line; and it is, as a rule, a much more expensive proposition to go out and make a replacement of a piece of pipe here and there, using all hand labor, and move on the job and off, than it would be to organize a large construction crew and go out and construct a pipe line. Now, a reserve accrual finally must be in terms [fol. 1982] of money, because that is what it is. A percentage applied to a certain cost is merely a convenient method of estimating that sum of money. Now, what I have determined up to this time is merely the rate at which replacements will be made. Now, if the replacements made cost more than the unit costs to which the percentages apply, then of necessity some adjustment must be made to the percentage in order to yield the sum of money which is necessary to provide for the cost of the replacement; and in the final analysis a reserve must stand for the cost of the replacement. Now, I analyzed approximately 201 individual replacements on jobs which involved individual replacements ranging from 20 feet to 25,000 feet in length, with a total of

665,000 feet of pipe and involving a labor expenditure of \$232,000.

Q. This was on the Lone Star Gas System and the figures you have just given are actual costs as reflected by the Company's books?

A. Yes; and then I related the unit cost per foot of those replacements to the unit costs in the appraisal, and found that the ratio of unit cost of making a replacement piecemeal was approximately 1.6 times as great as the unit cost in the appraisal.

Q. Or the unit cost that would be experience- in a wholesale construction program?

A. That is correct. Now, I found on investigation that [fol. 1983] there were included some incidental costs in connection with some of these jobs—not all of them—which could not be segregated from the cost of making the replacement. I found when they opened up a stretch of pipe for the replacement, that they would probably tighten up the Dresser couplings on a section of line close by, or something of that sort, and in order to account or to provide for that excess expenditure which might have crept into the investigation I reduced that ratio from 1.61 to 1.50. That was one step which would necessarily be made in connection with adjusting the percentages found when those percentages were ultimately expressed in terms of dollars and cents. Now, the next step was this: I estimated that whenever a piece of pipe was removed, by reason of the fact that operating conditions had changed, or some public requirement had necessitated the removal, that the pipe and fittings removed would be 100 cents on the dollar when placed in the warehouse. In other words, that is what you term the salvable value of the pipe—that is, one hundred per cent of the pipe, less such costs as would be necessarily applied to the pipe in the way of cleaning and reconditioning, and the cost of fixing the ends of the pipe for further service. Then I studied the actual costs of \$4,548,487.22 worth of actual construction costs, and broke the costs down into pipe and fittings, and all other items of expense that went into that construction, in order to determine what part of a line, or what percentage of a line, would be saved or salvaged, if the line were removed. Of course, you would lose all your labor in ditching, backfilling, and all the cost of welding the pipe, and placing it in the ditch, and hauling it—

all that cost would be lost. And then, of course, it would cost you money to recover the pipe or take it out of the ditch and get it to the warehouse; and taking into consideration those factors, and making the detailed study found on page 167, of Exhibit 42, I found that if you estimated that the pipe and fittings were worth 100 cents on the dollar, and that it cost you 25 per cent of the cost of those fittings to recondition them and get them in shape to relay, that the total loss on any line under those conditions would be seventy per cent of its originally installed cost; so the percentage which I used to cover the future costs of removals and replacements due primarily to changed operating conditions was used only to the extent of 70 per cent of the estimated figure, which I have previously discussed. Now, if attention is directed to page 168, it will be noted that each of the factors which I am discussing have had the percentages which I am now explaining applied to them. Now, I estimated that when a pipe was taken out of the ground by reason of the fact that its per cent condition was such that it would be no longer used, or [fol. 1985] in other words, replaced on account of its condition, I estimated that pipe would be worth 50 per cent of new.

Q. Mr. Connor, in making that assumption that the pipe that would be removed would be worth fifty per cent of new, do you believe that that is a very conservative estimate?

A. I certainly do. I am assuming that every piece of property taken out of the Lone Star System by reason of the fact it was deteriorated would be worth 50 per cent of new.

Q. Based upon the actual experience of the Company, has the pipe which has been removed by reason of the fact that it has deteriorated been worth as much as 50 per cent of new?

A. It has not. Of course, pipe can be taken up from one section of a system where pressures are high, and be relaid as a suction line or where pressures are low, and it would render fair service, and I have taken that into consideration. By giving effect to that assumption, I then reduced the excess cost of making replacements in small sections over the unit sections from 1.50, as I have previously explained, to 1.18. Now, on page 168, each of those steps is set out in detail. The first column shows the year to which the calculation refers; the second column shows the estimated annual percentage of the line which the calculations show might be [fol. 1986] replaced in the future; Column B shows that estimated percentage when multiplied by 1.18; Column C shows

the estimated replacements due to public requirements and so forth. Column D shows that Column C has been multiplied by 70 per cent. Column E is the decline in per cent of new condition, and the factor that applies to that is .96, it having been determined that the per cent of the property subject to depreciation and replacement—that is, the main lines as distinguished from rights of way, was 96 per cent of the total cost. If the various columns on page 168 are added as shown in Column G, they will then be found as Column B on page 169, and the explanation of the calculations which I have made with reference to the determination and use of 5.4 for the replacement, removal, abandonment, and rehabilitation, and so forth, of steel pipe in the transmission system; tap lines, well lines, and field lines of Lone Star Gas Company, is complete.

[fol. 1987] Q. Now, in connection with well lines and field lines, Mr. Connor, as shown by page 1 of Exhibit 41, the per cent factor used as the annual rate of reserve accrual is 8.6 per cent?

A. That is correct.

Q. If we refer to page 186 of Defendant's Exhibit 42 do we find in the "A" column the application of that factor?

A. That is correct.

Q. Briefly, Mr. Connor, from what is that factor derived?

A. The factor 8.6 in column "A" on page 186, which refers particularly to well lines and field lines, is exactly comparable in all respects to the figure 5.40 shown in column "A" on page 169. The difference in the figure between 5.40 and 8.6, which is really derived and developed from the difference between column "B", 169, and column "B", 186, grows out of the fact that the provision for field line removals and well line removals by changing operating conditions, borne out by the history, and the curve itself is based on the history of the company, is much greater than replacements and removals of main lines and tap lines, because there is a constant shifting of well lines and field lines, more especially in the well lines and field lines, but in each case a great deal more than in the main transmission lines.

Q. Changed operating conditions in effect are the chief source—the chief cause of the removal, retirement and abandonment of well gathering lines or well lines and field lines?

A. That is correct. The rate of replacement for the well [fol. 1988] lines by reason of the physical condition of the pipe is identical in its development with that for main lines and tap lines, because, as I have previously explained, the factors which would contribute to the corrosion and rust of field lines would be exactly the same as those which would apply to main lines.

Q. Mr. Connor, refer to page 1 of Defendant's Exhibit 41. In connection with the Gathering System property you determined an annual rate of reserve accrual of 10.5 per cent as applicable to the rights of way in the Gathering System property and the same as applicable to the rights of way in the field line. What is the basis for that determination?

A. The percentage on the rights of way, 8.6, I will explain that the rights of way are included in all cases, because I have applied that percentage in making the estimate of percentage for main lines and tap lines and well lines; I estimated the per cent of property exclusive of the rights of way, and therefore I have to account for that by applying that per cent to the rights of way as appraised.

Q. Do you do that, Mr. Connor, for the reason that the rights of way will be valueless with the abandonment of the well lines and the field lines?

A. Yes.

Q. A moment ago, Mr. Connor, I erroneously stated that you applied 10.5 per cent as the annual rate of reserve accrual to rights of way. As a matter of fact you applied that to the Measuring System Structures, the Measuring Station Equipment, and any of the other well lines and field lines?

[fol. 1989] A. That is correct.

Q. Now, what is the basis for that adopted figure of 10.5 per cent?

A. The basis for that estimate is shown on page 287 and the summaries, as follows: Decline in per cent of new condition one per cent per annum; current replacements and paint, two per cent per annum; cost of removals and abandonment, 7.5 per cent per annum; giving a total accrual rate of 10.5 per cent per annum.

Q. Do you believe that that is conservative?

A. I think it is a fair estimate, and the field Measuring Station Equipment is based on the same factor.

Q. Mr. Connor, in connection with Transmission System line equipment—Transmission System rights of way, as well as in connection with Transmission line equipment, you have used a percentage factor in your application of the annual rate of reserve accrual in the amount of 5.4 per cent. Why do you use that percentage?

A. I state on page 152 the reasons why it was necessary to do that. The reason is this: that in making my application I omitted the rights of way—I reduced the value of the main Transmission System by the amount of the rights of way.

Q. And you have applied the same percentage factor for that reason?

A. They are specifically omitted in the calculations shown.

Q. And you have, therefore, applied the same percentage factor to the rights of way that you did to Transmission Line Equipment?

[fol. 1990] A. That is correct.

Q. Now, Mr. Connor, in connection with Measuring Station Structures, Other Structures, and Measuring Station Equipment, appearing on page 1 of Defendant's Exhibit 41, you appear to have used a percentage factor for annual rate of reserve accrual in the amount of 5.1 per cent. What is the factual basis, if any, for the adoption of that percentage?

A. The detail is *whon* on page 228 of Exhibit 42: Decline in per cent condition is fixed at one per cent per annum; current replacements, painting and removals, two per cent per annum; amortization in twenty-five years on a five per cent annuity basis; two and one-tenth per cent per annum. The sum of those figures is 5.1 per cent per annum.

Q. Do you believe that that is a reasonable estimate?

A. I do.

Q. Mr. Connor, the next large item of property appearing on page 1 of Defendant's Exhibit 41 for which you have made an estimate of annual reserve accruals is in connection with the Compressor Station property. Now, next to the Transmission System property, this is the largest item of physical property in the Lone Star Gas Company system, is it not?

A. That is correct.

Q. You used, as shown by page 1 of the exhibit, an adopted percentage of 6.216 per cent as the annual rate of reserve accrual, which, when applied to a total property

account of \$4,867,679.03, gives an annual amount for credit to depreciation reserve accrual of \$302,574.93?

[fol. 1991] A. That is correct.

Q. Now, what is the factual basis, if any, for the determination, or what is the derivation of that percentage?

A. The final derivation of that percentage is shown on page 255.

Q. Of exhibit 42?

A. Of Exhibit 42, wherein there is weighted out between the per cent of money represented by the reproduction cost of the main line stations and the per cent of money represented by the reproduction cost of the field stations the respective per cents which have been determined for each ground of compressor stations.

Q. Now, in connection with Compressor stations, as in connection with the steel pipe, did you resort to a study of the actual historical experience of the company?

A. In so far as the historical experience of the company afforded a basis for a rational determination.

Q. On page 263 of Exhibit 42 have you set forth the horsepower installed in the several compressors as of January 1, 1933?

A. I have.

Q. That shows the total horsepower at 38,165?

A. That is right, inclusive of two 190 horsepower Miller gas engines in the Moran station, which are not included in the inventory, I believe.

Q. Mr. Connor, commencing on page 269 and going through page 275, have you set forth the historical data covering retirements of units from the several Compressor Stations of the company?

A. I have set out briefly a history of each plant. For [fol. 1992] instance, on page 271, I specifically refer to the Ibex plant. The Ibex Compressor Station, located near Albany, Texas; date of installation, 1924; original set up: 12 160 horsepower Type 75 Cooper gas engines; 1925, four 160 horsepower Type 75 Cooper and one 175 horsepower Clark engines were added; 1926, seven 170 horsepower Type 80 Cooper gas engines were added. Now, in 1930 it shows seven 170 horsepower Cooper engines were retired from that station and erected at Brad and the 175 horsepower Clark and two 160 horsepower Coopers were re-tired in 1930 and erected at X-Ray, leaving the present set-up of the station 14 160 horsepower Cooper engines. I have a

similar segregation of each and every Compressor Station which Lone Star Gas Company had as of January 1, 1933.

Q. And showing the changes in the main compressor units?

A. That is correct, if any changes have been made, and if not, the statement is so made.

Q. Speak a little louder.

A. I say, if no changes have been made, it is so stated.

Q. On page 276 of Defendant's Exhibit 42 do you summarize the Compressor Station Construction and show the years wherein the various horsepower of the stations was installed?

A. That is correct.

Q. When was the first installation of compressor stations?

A. In the year 1914.

Q. Do you show in the right-hand column on that page the cumulative percentage of installation for each year from 1914 through 1930?

[fol. 1993] A. I do.

Q. Now, Mr. Connor, please relate to the jury in a general way how you arrived at your final adopted factor of 6.216 per cent for annual rate of reserve accrual as applied to Compressor Stations.

A. The first thing, of course, was to take into consideration the operating experience and history of the compressor stations in the Lone Star Gas Company system. There are two types of compressor units installed. I might modify that statement by saying that there are two classes of station in operation. The first class is the class of station which might be properly designated as a main line station; that is a station which is strategically located on the main line of the system, or main lines of the system, with the probability that it will remain there indefinitely. The other type of station is the type of station which is near a field station, and these stations are located near the field, close to the source of reproduction, and have no particular reference to the main lines, because as a matter of fact they are really rarely, if ever, on the main line. They take the gas from the gasoline plants—the residue gas from those plants, which comes to those stations at a very low pressure, and they pick it up at a sufficient pressure to permit it to be economically transported over transmission systems.

Q. The field stations carry it to the main lines?

A. That is correct. There are always a number of wells [fol. 1994] in what is known as low rock pressure or lower pressure than the average pressure of other wells. Now, the high pressure wells can discharge into a line the required pressure for adequate service. A large number of other wells in good condition, capable of producing a large volume of gas, would be able to—be unable to deliver gas into the lines. The installation of a compressor station there permits picking up the gas and putting it into the line. Now, as depletion takes place there is a constant shifting and movement of compressor units from one location to another.

Q. Is it in about the same way, Mr. Connor, as the constant shifting of field lines, well lines and gathering lines?

A. That is correct. Of course, in a lesser degree. Now, when stations are installed the units are specially designed in order to be readily transferred from one location to another. They do not compare in size with the very large units which are located on the main line station at Petrolia. Now, inasmuch as compressor stations have different characteristics, there is a certain amount of changing and moving around, incurring losses and costs by reason of these removals, and it is necessary to separate the reserve accrual into one which will apply to the field stations and one *which will apply to the field stations and one* which will apply to the main line stations. That necessitates as the first step a ratio of the reproduction cost of main line stations and of the reproduction cost of field stations. Now, on page 242, that allocation is made, showing [fol. 1995] ing that the reproduction cost of Gainesville station, Joshua station No. 1, Joshua Station No. 2 and Petrolia station was as of January 1, 1933, \$1,643,591.00, while the reproduction cost of the other stations, of which Brad, Brazos, Breckenridge, Caddo, Cheaney, Desdemona, Eastland, and so forth, are typical examples, was \$3,266,355.00. Now, the compressor units are very large gas engines. That is practically true in every case, except on some compressors at Joshua No. 1 station; all of the other units of Lone Star Gas Company are natural gas engines. They will unquestionable operate over a long period of time; just how long, I don't know. I don't know of any equipment of that kind which is operating now that is fifty years old. I do not believe that they will last or be in service

that long. Frankly, my estimate for the retirement of those units is merely an estimate, and I have assumed that they would have an average life of thirty-seven years, I believe—thirty-five years—and I have assumed that the accrual should be accrued upon a sinking fund basis, for the reason that there will be no substantial requirement for the use of that reserve with respect to the compressors until the time that they are ready to be taken out of service, for the reason that I have otherwise provided for the current renewals of parts around the station.

[fol. 1996] Q. Now, you say that your estimate of thirty-five years is just what you stated it to be,—I will ask you if that is a rational assumption for comparable—for machinery of that type in use in other work?

A. Yes; I don't think there are many reciprocating engines or engines that have the speed and have to stand the usage that the gas compressor does, that, as a rule, last much beyond thirty-five years. Improvements take place, and obsolescence or inadequacy will perhaps take precedence over actual physical deterioration.

Q. By proper maintenance the life of these engines can be prolonged for quite a period?

A. That is true. Now, in connection with these compressor stations there are a lot of other pieces of equipment that are entirely different from the equipment that we have been talking about. We have Class A Structures, which are steel frame, iron side structures; we have Class B Structures, which are wooden structures; we have boiler plants, and auxiliary units, water supply, water storage tanks, cooling towers, plant pipe, and other similar equipment around the stations, which is much more subject to loss through depreciation and replacements than the main units themselves. So I took the reproduction cost of the main line [fol. 1997] stations, and broke it down into the constituent items, and determined what percentage of the whole these constituent items were. For instance, on the main line stations the main units constitute 47.2 per cent of the entire equipment; while on the field stations the main units constitute 51.28 per cent of the entire cost—the reproduction cost of the units.

Q. Now, that breakdown—both in connection with the main line stations and in connection with the field stations—is set forth on pages 243 and 244 of Defendant's Exhibit 42?

A. That is correct. Certain current replacements and current renewals are required, and I have used very largely the Company's operating expense with reference to the cost of such charges to the reserve account, in making my estimate, and that tabulation is shown on page 253 of Exhibit 42; and I have put an asterisk after the items which would be included in my allowance for current charges, as distinguished from the reserve accruals provided to make the replacements of the units themselves. The most important thing is the determination of the proper rate of removal of these compressor stations, and I have determined it upon the basis of the actual experience of the Company in the past, in connection with the [fol. 1998] removal of units. Now, that determination itself had to be subjected to analysis, for the reason that in some cases the removals involved the abandonment and removal of the entire station, in many other cases only a part of the station, as was disclosed by the description that I gave of the Ibex Station, where it showed that some of the engines had been removed and that some were still there. I made a careful study of the cost of making these removals; the estimate was actually prepared by the Engineers of the Lone Star Gas Company who operated and constructed the compressor stations, for the purpose of determining how much would be lost when one of those stations was moved, in part or as a whole.

Q. Just give the jury a general idea of what is lost, Mr. Connor, in the way of construction materials and labor, when a station is removed or abandoned in whole or in part.

A. Well, when a station is removed as a whole, the foundations are lost, all of the labor of installation is lost, all of the supervision is lost, everything that had to do with getting the material on the ground is lost; there will be a very heavy loss on the cottages and other modern appliances that would have to be sold for what anybody would [fol. 1999] be willing to pay for them; there would be a loss on the land itself, because it would be difficult to dispose of it; there would be a loss on all the provisions for water—and the provisions for water at a compressor station constitute a very important factor—all of the piping and all of the labor in assembling the piping underground and overhead would be lost; and there would be some loss, of course, represented by the wear and tear on and injury

which might be done to the major equipment. Now, in the case of a partial removal, the loss would not be so great, because the structure itself would still be there, and the cottages and the substantial part of the building and appurtenant equipment would not be affected by the removal of one or more units; and I have given effect to those things on page 250, after first determining what percentage of the total removals in the past had been complete removals. I found that approximately $69\frac{1}{2}$ per cent of the total horsepower removed had been in connection with complete removals, and that approximately 30.6 per cent had been removals in connection with removals of units from one station to another, without complete removal of the station. Now, it was determined after a careful analysis and estimate on the part of the Compressor Department Engineer-[fol. 2000] ing Section that there would be 49.2 per cent loss on the abandonment—the total abandonment of a station, and that 21.9 per cent would be lost on the removal of individual units.

Q. Did you check those compilations of the Compressor Engineering Department?

A. Yes; I had made up from the accounting records of the Company and taken from the plant equipment section a detailed estimate of the cost of several typical field stations. This detailed cost showed the actual cost of all the items which went into the construction of these typical field stations, and by checking the actual cost of the labor and material which went into these stations, and by making a careful determination of what would be lost in each case upon removal, it was possible to make a check against the Engineers' figures—and, in fact, the Engineers themselves, in making their estimate, made reference to these detailed costs, and that is, I think, a very conservative figure, that you would save about fifty per cent of the total installed cost of a station when you removed it. Things would have to work out pretty satisfactorily all around in order to secure that much salvage out of a removal of a complete station from one part of the State to another. However, those [fol. 2001] are the percentages which I used. Now, as I said before, thirty and approximately six-tenths per cent were involved in partial removals, and multiplying 3.57 per cent by 21.9 per cent (which is the loss in partial removals) we get a weighted loss of 6.69 per cent; and multiplying 69.43 per cent (which represents the total removals involved in

the per cent of the total removals—involved in the complete removals) by 49.2 per cent (which would be the loss involved in total removals) we get a weighted loss of 31.16 per cent, and adding this 6.69 per cent we get 40.85 per cent. Now, that 40.85 per cent then becomes a factor which I apply to the annual percentage of the reproduction cost of the stations, which I have estimated would be the rate at which these stations would be removed. For instance, for the estimate as shown on page 251, the annual rate is 4.35 for the year, with progressively increasing percentages for each succeeding year. In each case that percentage is multiplied by 40.85, and in that case the 4.35 is reduced to 1.78 per cent. Now, in connection with the various items of property in the compressor stations, other than the main units as shown—and including the main units, as a matter of fact, as shown on pages 246 and 247, the percentage of the total of the main line stations to the percent-[fol. 2002] age of the total of the field stations represented by the various items which go to make up the station, had applied to them an annual rate of reserve accrual. Now, in most cases this annual rate of reserve accrual was worked out in connection with the Engineers who actually operated and maintained these plants, together with a study and application of the depreciation percentages suggested for similar equipment by the Bureau of Internal Revenue in its preliminary report on that subject.

Q. You are referring to the Bureau of Internal Revenue of the United States?

A. That is correct.

Q. The Treasury Department?

A. That is correct. Now, these figures result in an annual rate—weighted rate for the main line stations of 3.522 per cent, and for the field stations of 3.115 per cent. Now, that was exclusive of the allowance for the removal of stations which would only involve the field stations, and also exclusive of the reserve required for current replacements.

Q. In other words, the annual rates shown on pages 246 and 247 of Defendant's Exhibit 42 for the main line stations and the field stations do not involve any accrual for replacements and do not involve any accruals which would [fol. 2003] be necessitated by reason of future removals of stations, in whole or in part?

A. That is correct; and I made a further adjustment, in that I took into consideration a possible salvage value which might arise when the items subject to functional depreciation were finally abandoned.

Q. That is, they might be worth something as junk?

A. That is correct; and I reduced the annual rate by multiplying it by decimal eighty-five; in other words, I have reduced for the main line stations the annual rate of 3.522 to 2.994, and secured for the main line stations a total annual rate of 4.994, composed of 2.99 for functional depreciation of the main units and all of the auxiliary equipment and other appurtenant equipment, one per cent per annum for current replacements, and one per cent per annum for decline in per cent of new condition, making the total 4.994 per cent.

Q. That is shown on page 255 of your Exhibit 42?

A. Yes, that is correct. Now, for the field stations the determination is made on page 256, and there is also a credit of fifteen per cent for net salvage, on the assumption that there will be that net salvage upon the ultimate functional depreciation of the field stations.

[fol. 2004] Q. Then, having determined the annual rate for the main line stations to be 4.944 per cent, as set forth on page 255 of Defendant's Exhibit 42, and having determined that the annual rate for field compressor stations should be 6.831 per cent, as set forth on page 256,—what did you do in order to determine the composite rate for all stations?

A. I multiplied the annual rate determined for the main line stations by the percentage that the main line stations bore to the total investment in compressor stations, and I multiplied the percentage found for field stations by the percentage which represented the proportionate part of the total compressor station investment represented by field compressor stations.

[fol. 2005] Q. Mr. Connor, at page 255, you show the adoption of a weighted average annual rate of 6.2162 per cent for compressor station property, which is carried forward to page 1 of Defendant's Exhibit 41?

A. That is correct.

Q. And you have described in a general way the methods which you used to arrive at that determined percentage?

A. That is correct—in a general way.

Q. The various details and the factual data upon which you rely in connection with that estimate are set forth in the Compressor Station Section of Defendant's Exhibit 42?

A. That is correct; and also the tests which I applied to my conclusions and calculations—that is, testing the calculations with the actual experience of the Company.

Q. Mr. Connor, in connection with the next item of property appearing on page 1 of Defendant's Exhibit 41, under the heading of "General System Property", we find General Office Land and Other General Land, for which there is no annual depreciation reserve accrued?

A. That is correct.

Q. For what reason, Mr. Connor?

A. Because there is none necessary.

Q. In other words, land is a non-depreciable item or classification of property?

A. That is correct. I have included in my amortization accrual some allowance for such land as would probably lose a portion of its value by reason of its failure to be used for the purpose for which intended.

Q. But such an amortization would not be applicable to the General Land of the Company?

A. Not at all.

Q. At the bottom of page 1 of Defendant's Exhibit 41 is the item General Office Structure, the reproduction cost new of which is \$321,437.63, and for which you determined an annual rate of reserve accrual of 3.3 per cent, resulting in an annual amount for credit to depreciation reserve account of \$10,607.44. What is the basis of the determination of that percentage?

A. The details setting out the manner in which the annual rate for General Office Structure was determined are shown on pages 285 and 286.

Q. In connection with the General Office Building of the Company, have you made a breakdown of the component units that would enter into that structure on page 286 of Exhibit No. 42?

A. That is correct, I have.

Q. And having made that breakdown have you applied an average life figure to the various units, such as elevators, sidewalk lift, heating system, and Plumbing, Lighting System, [fol. 2007] Linoleum, roofing, and so forth, in order to determine a proper annual depreciation rate?

A. That is correct. In that connection I have used, wherever these items were included in the Preliminary Report of the Bureau of Internal Revenue, of the Treasury Department of the United States, the percentages set out by the Preliminary Report. In the case of the building as a whole I have assumed a forty-year amortization on a sinking fund basis. I have also include- $1\frac{1}{2}$ per cent per annum for current changes and replacements in the building which would not affect the building as a whole or would not apply to the items enumerated and to which percentages have been applied.

Q. Do you believe that you have made a rational and conservative estimate as to the percentage of annual rate of reserve accrual in connection with the General Office Structure?

A. I think so. I think the estimated life of forty years for office building in the city of Dallas is a reasonable estimate to place upon the useful life of such a building. I have also applied a one per cent reserve accrual, as I have to each and every one of the other items of property which Mr. Biddison has included in the property account which he depreciated, in order to apply to the decline in per cent of new condition.

Q. Mr. Connor, refer to page 2 of Defendant's Exhibit 41. [fol. 2008] Continuing the classification of property known as General System Property, it appears that you have applied to Other General Structures 3.5 per cent as the annual rate of reserve accrual. Are these the general structures located in the city of Dallas, such as the shop, and garage and machine shop of the Company?

A. That is correct.

Q. And what is the basis for the calculation of that percentage?

A. That is shown on page 285. It is based on a thirty year useful life calculated upon a five per cent annuity or sinking fund accrual, which calculation results in an annual accrual for the amortization of the structure of 1.5 per cent. An annual allowance of one per cent is estimated for cost of changes and current replacements; and one per cent per annum is also included to offset the annual decline in per cent of new condition applicable to the property as a whole. The property I have described is the general warehouse and shops of the company located on Logan Street, Dallas, Texas.

Q. When you referred to page 285, you were, of course, referring to Exhibit 42?

A. That is correct.

Q. The next item on page 2 of Defendant's Exhibit 41, or rather the next two items, are listed as Other General [fol. 2009] Furniture and Fixtures, and General Office Furniture and Fixtures, and to which you have applied an annual rate of reserve accrual of 9.7 per cent per annum. What is the basis for the determination of this percentage?

A. The basis is shown on the schedule found on page 289 of Exhibit 42. That is for the General Office Furniture and Fixtures. General Office Furniture and Fixtures were broken down in detail by items, and the amounts applicable to the various items included in the total reproduction cost of \$207,601.84 are set out opposite each item. The annual rates were determined largely by the Preliminary Report of the Bureau of Internal Revenue, United States Treasury Department. This Report gave the annual rates which the Engineering Section of the Treasury Department had found to be applicable to this class of equipment. I have applied those rates wherever they were found to be applicable to the particular property item.

Q. Based upon your own experience in connection with this class of equipment, do you believe that the determined annual depreciation rate is reasonable?

A. I do. The bookcases, cabinets, and files have been fixed as having a twenty year life, and I think that is conservative; and the comptometers and adding machines have been given a ten year life, which is really a longer life than Lone Star Gas Company has actually experienced with that class of equipment. Of course, I don't believe that Lone [fol. 2010] Star Gas Company has any furniture that has not been purchased within the last twenty years. In other words, the furniture that they had twenty years ago has been replaced.

Q. Mr. Connor, if you refer to the third column on page 289 it would appear that the determined depreciation rate expressed as a per cent is 8.70 per cent?

A. That is correct.

Q. Would you add to that figure one per cent for the decline in condition?

A. That is correct. In every case I have done so, except where the percentages are entirely omitted.

Q. And the figure of 8.70 per cent appearing on page 289 of Defendant's Exhibit 42 plus the one per cent for decline in per cent of condition new gives you the adopted figure of 9.7 per cent appearing on page 2 of Defendant's Exhibit 41?

A. That is correct; and that step which you have described is set out in detail on page 288 of Exhibit 42.

Q. Mr. Connor, the next item appearing on page 2 of Exhibit 41 appears to be General Shop Equipment, to which you have applied an annual rate of reserve accrual of ten per cent per annum. What is the basis for the use of ten per cent per annum for depreciation in connection with this class of equipment?

A. I made no specific determination by individual items [fol. 2011] of the General Shop Equipment. It is the percentage usually used in connection with equipment of this kind, and consisting of various items used in the repair of automobiles and other types of machinery, and a useful life of ten years is a fair and reasonable estimate for such equipment.

Q. In connection with the next two items, General Tools and Automotive and Construction Equipment, on page 2, of Exhibit 41, is set forth an annual reserve accrual of one per cent per annum. I believe you already referred to your reasons, or gave your reasons for using one per cent per annum as applied to the Automotive and Construction Equipment?

A. That is correct. The actual rate of depreciation which would be applicable to Automotive and Construction Equipment would be largely in excess of one per cent per annum; but that depreciation cost is entirely provided for in the manner in which the Company keeps its books by means of capitalization of depreciation when the equipment is used on capital structures, and as a direct charge to operation when the equipment is used in operation; and therefore, any allowance for depreciation on those items if included herein would be a duplication of those charges.

Q. Well, how did you determine your allowance of one per cent per annum as the depreciation allowance covering [fol. 2012] the classification of property known as General Tools?

A. The allowance is determined exactly the same as in the case of those which have been previously referred to.

That is, the annual rate of decline in condition expressed in terms of weighted age of the property as disclosed by Mr. Biddison's investigation was one per cent, and I have assumed that that rate of decline in per cent of condition new will be uniform for a good many years to come.

Q. In connection with Final Engineering Records you have likewise applied an annual rate of one per cent per annum for depreciation and reserve accrual?

A. That is correct. I have assumed that the engineering records will either be maintained at their present high state of excellence, or if current changes it will be probably charged to operating expenses; and the one per cent is merely the overall decline in per cent of new condition which Mr. Biddison found in the property and the engineering records as included in the determination made by him.

Q. Mr. Connor, the last item of so-called physical property, of the next to the last item on page 2 of Defendant's Exhibit 42 is the item of General Telephone Equipment, to which you have applied for annual reserve accrual 3.34 per cent per annum. What is the basis for that determination?

A. The basis for that determination is shown on page 279.

Q. Of Exhibit 42?

A. No; I beg your pardon—on page 279 I simply show a [fol. 2013] breakdown of the property account into its constituent elements as expressed in percentage of the total. The actual determination is shown on page 280.

Q. In other words, you have taken the entire classification of General Telephone Equipment and broken it down into its component parts, such as rights of way, insulators, poles and cross arms, booths, phones and other equipment, hardware, and so forth, in order to determine the respective percentages for depreciation applicable to each item?

A. That is correct; and having determined the relative proportion of the total amount involved in the Telephone System which has been allocated to these various items, I then applied annual rates to each of them, with the exception of Rights of Way.

Q. And did you then add to the weighted annual rate so determined one per cent for the annual decline in per cent of new condition, which you have heretofore described in connection with other property?

A. That is correct. The actual calculated annual rate before the application of the one per cent was 2.34 per cent. In making up this estimate I assumed fifty per cent salvage value to the poles, and that fifty per cent of the replacements on the system would be made directly to operating expenses. In other words, I got the estimated renewal rate of the poles halved in two twice.

[fol. 2014] Q. On page 282 of Defendant's Exhibit 42, what have you set forth?

A. I have set forth there a very complete experience table on Treated Poles—treated similar to the manner used by Lone Star Gas Company. These data were secured from a text on the replacement of materials by Professor Curtis, and it in turn was taken from investigations abroad made for the purpose of determining the probably life of poles. We have no such information in our possession, and I simply used that as a guide, which would indicate that for treated poles the average life would be about 9.8 years.

Q. And the detail table set forth on page 282 is generally accepted and recognized as being the most extensive study of a large number of treated poles which is in existence?

A. I imagine that it is. The Creosote people in this country may have done work similar to that, but I have not seen any of their data.

Q. And do you believe that your allowance of 3.34 per cent per annum as applied to the General Telephone Equipment is reasonable and conservative?

A. I do. I have allowed fifty per cent as salvage on all poles removed, and further assumed that fifty per cent of the charges for the removal of telephone poles would be directly chargeable to operating expenses.

[fol. 2015] Q. Mr. Connor, it now appears from page 2 of Defendant's Exhibit 42 that the total annual reserve accruals expressed in money, which you have computed for the direct structural costs of the property—or, in relation to the Direct Structural Costs—is \$3,022,597.54?

A. That is correct; and is shown at page 2 of Defendant's Exhibit 41.

Q. I meant Exhibit 41.

A. Yes; Exhibit 41.

[fol. 2016] Q. We next find on page 2 of Defendant's Exhibit 41 an allowance of one per cent per annum for other undistributed general costs, and the money allowance of

\$92,001.30. What is the basis for the allowance of one per cent per annum as applied to the other undistributed general costs?

A. I have included an allowance of one per cent per annum to provide for the decline in per cent new condition ascribed to those items by Mr. P. McDonald Biddison. Now, it is quite common for engineers in making an estimate of depreciation reserve accrual to make a specific allowance of some sort for items of this sort, but I do not agree with that practice, because I do not believe that the undistributed general costs which would be encountered in reproduction would be met with in the piecemeal replacement of units of property, just as it costs more money to construct property piecemeal, and consideration should be given to that in the setting up of reserve accruals. On the other hand, it costs less from the standpoint of general expenses in connection with making replacements than to reproduce the property, and I don't think it is proper to set up an annual reserve accrual to cover that.

Q. The next item on page 2 of Defendant's Exhibit 41 is an allowance of .828 per cent per annum applied to \$42,332,671.62, resulting in a money figure for annual reserve accrual of \$350,514.52. If we refer to pages 3 and 4 of Exhibit 41 do we find on those pages a tabulation showing the depreciable property to be amortized?

A. That is correct; and in a general way an outline of [fol. 2017] how the tabulation has been set up. In the text of Exhibit 42, beginning on page 291 and extending through page 301, there is a detailed statement setting out the reasons for each of the subjects which are discussed by the summary, and on pages 304 and 305 of Exhibit 42 the same summary which is found in Exhibit 41 is likewise set out.

Q. Is the same summary which appears on pages 3 and 4 of Exhibit 41 set out?

A. Yes, sir. I think I have previously explained the basis for the summary, with the exception of one item. I have explained that on certain items there would be no loss, that the loss would have been provided for in the other allowances made, and there remains to be explained the item in column "B". That represents decline in per cent of new condition, plus the salvable value of the materials on abandonment included in the estimate and for which no amorti-

zation should be provided, because, wherever we have set up in the primary portion of the estimate of reserve accruals an allowance for decline in per cent of new condition certainly that portion of the total has already been provided and you would not want to amortize that. Then, if there was a salvable value, which I have estimated to be fifteen per cent you would not need to amortize that, because you would get it back when you abandoned that property, and the sum of those two items is shown in Column "D".

Q. Amounting to \$14,311,896.15?

A. Yes, sir. The sum of the items in columns "B", "C" and "D" is added—I mean is found in column "E" as a [fol. 2018] total figure which shows \$31,650,733.95, which is deducted from the total cost of reproduction new, and leaves the amount to be amortized. Now, included in the amortization item is my estimate of the cost of developing business, because it would be a capital asset which would be lost upon the final abandonment of the enterprise—that is, any going value or cost of business development which the company may have acquired or incurred.

Q. Therefore on page 2 of Defendant's Exhibit 41 you have set forth your annual determined amounts expressed as money covering the depreciation allowances for the direct structural costs of the physical property, for the other undistributed general costs, and for the amortization of property subject to amortization?

A. That is correct.

Q. And in what total amount, Mr. Connor?

A. \$3,465,123.36.

Q. And does that represent your best estimate based upon the studies which you have made of the annual amount which Lone Star Gas Company should be entitled to charge to operating expenses in connection with its public service operations, exclusive of the Fort Worth Division, and for annual credit to the depreciation reserve account?

A. That is correct, subject to any mechanical errors which may have intruded into the calculation. Before leaving the subject, Mr. Freese has kindly called my attention to a typographical error which was found in two places on page 311. The error is obvious, because the calculated [fol. 2019] results have no relation to the figure actually found in the exhibit on page 311. In the last sentence of

the second paragraph, the figure dollar mark decimal nought 73 M cubic feet should be changed to read dollar mark decimal nought nought 73 per M cubic feet, and the same correction should be made in the following paragraph where the figure dollar mark decimal nought 73 appears.

Mr. Freese: It is on the next page, too.

A. Mr. Freese suggests that it is on the next page, too, and the same correction should be made.

Mr. Griffith: Mr. Reporter, will you see that the original copy is changed?

The Reporter: Yes, sir.

A. That figure which I read where the correction was required was Mr. Huley's determination of the unit value of the gas reserves of Lone Star Gas Company, and I had it in my book at seven cents per thousand cubic feet, while Mr. Huley's was seven-tenths of one per cent per thousand—one cent per thousand cubic feet.

Q. You did, however, apply the correct price of seven and three hundredths of one cent per thousand cubic feet in your calculation for depreciation?

A. Seventy-three thousandths of one cent. Yes, the extensions were correct in dollars; there is no error in the dollars.

Q. Mr. Connor, in connection with your qualifications, I believe that you stated you had had some considerable experience in the financing and negotiating of financing of natural gas projects and enterprises?

[fol. 2020] A. I have; yes, sir.

Q. Were those enterprises similar in all substantial respects to the business of Lone Star Gas Company or the business in which Lone Star Gas Company is engaged?

A. The enterprises that I have been connected with were natural gas pipe line projects, either constructed in the general territory in which Lone Star Gas Company operates or were planned to be constructed in this general territory, and in connection with my experience in those matters I have had occasion to represent both the people who were attempting to get money to build projections—projects of that kind and also the people who were going to furnish the money to build projects of that kind.

Q. Mr. Connor, are you familiar with current costs of money to utilities such as manufactured gas properties,

telephone properties, water properties, and natural gas properties?

A. I have kept myself currently advised as to the current yield on the senior securities of public utilities.

Q. Have you prepared, Mr. Connor, a compilation for introduction in evidence here giving current quotations on bonds and senior securities of natural gas, manufactured gas and electric utilities?

A. I have; yes, sir.

Q. Is this the compilation to which you refer?

A. It is.

Mr. Griffith: We offer in evidence the compilation so identified by the witness, being styled on the title cover [fols. 2021-2052] "Lone Star Gas Company—Current Quotations on Bonds and other Senior Securities, Natural Gas, Manufactured Gas, and Electric Utilities. Ed C. Connor, Consulting Engineer, Dallas, Texas."

[fol. 2053] Q. Mr. Connor, are you familiar with the returns commonly expected, demanded and received by investors in public utility enterprises?

A. I am.

Q. Is that true in respect of public utility enterprises generally through the United States as well as in this South-western territory?

A. That is correct.

Q. How do investors regard the relative hazards of the natural gas business, the electric business and the manufactured gas business as indicated by yields of first mortgage bonds and other senior securities?

[fol. 2054] A. They regard the manufactured gas business as being the most acceptable and least hazardous; they regard the electric utility business as being less hazardous than the natural gas business; they regard the natural gas business as being the most hazardous and uncertain of all public utility enterprises.

Q. Is there any particular division or section of the natural gas business or natural gas utility business regarded as more hazardous than any other division?

A. Yes.

Q. What is that division which is regarded as more hazardous?

A. That is the division of the natural gas business which has to do with the production and transportation of natural gas as distinguished from the local distribution of natural gas.

Q. Does it make any difference, Mr. Connor, whether that distribution is done in towns and cities which would not support a manufactured gas plant after the exhaustion of the natural gas supply?

A. The distinction does not apply to cities which are so small as to not justify the construction or operation of a manufactured gas plant should the supply of natural gas be exhausted.

Q. Mr. Connor, as a result of what you have stated relative to the relative hazards of the manufactured gas, electric light and power, and natural gas utility enterprises, is a higher rate of return necessary to attract capital for investment in natural gas enterprises than in manufactured gas and electric light and power enterprises?

[fol. 2055] A. That is correct.

Q. Mr. Connor, please refer to the exhibit marked for identification Defendant's Exhibit 43. The exhibit appears to give the maturity date, the high and low prices for 1934 and in most cases the last sale of each security, and the yield of most of the securities to maturity as of May 22, 1934?

A. That is correct.

Q. Has there been any substantial change in the selling price of such securities and the consequent yield to maturity from May 22, 1934, up to the time of this hearing, to-wit, June 30, 1934?

A. There has not.

Q. Mr. Connor, what does Defendant's Exhibit 43 reflect as to the comparative yields of bonds and senior securities of the three utility enterprises—that is, natural gas utilities, electric light and power utilities, and the manufactured gas utilities?

A. The exhibit discloses the fact that the average yield on manufactured gas utility enterprises is the lowest of the three and that the average yield of the electric utilities is lower than that of the natural gas securities.

Q. And does it also disclose that the yield of the natural gas utilities is substantially higher on the bonds and senior securities than on the bonds and senior securities of the manufactured gas and electric light and power enterprises?

A. In most instances that is correct.

Q. Mr. Connor, does Exhibit 43 reflect the current yield of senior securities of any natural gas utilities operating in [fol. 2056] the State of Texas?

A. It does.

Q. What are those companies?—and give the respective selling prices or yields of the senior securities of each company.

A. The Houston Gulf Gas Company is a pipe line operating in the State of Texas. The first and collateral sinking fund "A" six per cent securities of this company sold last at 74; the low for the year was 42; the high for the year was 77. There has been no calculation made of the yield to maturity of that security. The El Paso Natural Gas Company first sinking fund six and one-half per cent bonds on the last sale would yield to maturity 12.05 per cent. The Dallas Gas Company first mortgage sinking fund six per cent bonds will yield to maturity 5.51 per cent. The County Gas Company first mortgage five per cent bonds will yield to maturity 6.39 per cent; that is based on the last sale recorded as of May 22, 1934. The Texas Cities Gas Company first mortgage five per cent bonds, the last sale was at 55; the low for the year was 51, and the high for the year was 61 as of May 22, 1934. The Municipal Gas Company first "A" six per cent—

Q. First mortgage?

A. First Mortgage bonds, the sale—last sale was 94; the low for the year was 82; the high for the year was 94.

Q. Now, do those companies constitute practically all of the operating gas companies in the State of Texas for which you have the selling price or yield for the bonds or senior securities?

[fol. 2057] A. That is substantially all of them; yes.

Q. Mr. Connor, what is the El Paso Natural Gas Company?

A. The El Paso Natural Gas Company is a pipe line company which delivers gas from the Southeast portion of the State of New Mexico to the city of El Paso and its environs.

Q. What is the Houston Gulf Gas Company?

A. The Houston Gulf Gas Company is a natural gas pipe line company which transports gas from the vicinity of Refugio and White Point, Texas, to the city of Houston and its environs.

Q. Is the company engaged in the production as well as the transportation of gas?

A. Yes, sir.

Q. What is the Texas Cities Gas Company?

A. The Texas Cities Gas Company is a distribution company distributing natural gas in the cities of El Paso, Galveston, Waco, Paris, and Brenham, Texas.

Q. What is the County Gas Company, and where does it operate?

A. The County Gas Company is a company which serves a portion of the city of Dallas which, I believe, is outlined by the city limits of Dallas which existed in the year 1917. The remaining portion of the city of Dallas—that is, the portion of the city which was comprehended by the city limits of the city in the year 1917—is served by the Dallas Gas Company.

Q. Both of those companies are what are known as local distributing companies?

[fol. 2058] A. Local distributing companies, and the combined property of the Dallas Gas Company and the County Gas Company serves what is generally termed the metropolitan area of the city of Dallas.

Q. What is the municipal Gas Company, and where does it operate?

A. The Municipal Gas Company engaged in the distribution of natural gas in cities located in North Texas and North Central Texas. Wichita Falls, Sherman, Denton, Denison, Bowie, Corsicana, Cleburne, Hillsboro and Waxahachie are cities served by Municipal Gas Company.

Q. Mr. Connor, in Defendant's Exhibit 43 have you shown the yields of bonds and other senior securities of electric companies located and doing business in the State of Texas?

A. I have.

Q. What are those utilities and what are the yields of those securities to investors?

A. The utilities listed are: Dallas Power & Light Company, Texas Power & Light Company, and Houston Light & Power Company. The Dallas Power & Light Company is a company engaged in the generation and distribution of electric energy in the metropolitan area of the City of Dallas. The Texas Power & Light Company is an electric utility which transports electric energy by means of transmission lines and then distributes it in a large number of cities and towns located in North Texas and Central Texas.

Waco, Hillsboro, Belton, Cleburne, and towns generally located in that territory are supplied by the Texas Power [fol. 2059] & Light Company. The Houston Light & Power Company is a similar company to the Dallas Power & Light Company and generates and distributes electrical energy in the metropolitan area of the city of Houston. The yield of the first mortgage securities of these companies is as follows: Dallas Power & Light Company first mortgage sinking fund "A" six per cent bonds yield to maturity 5.18. Dallas Power & Light Company first mortgage sinking fund "B" six and one-half per cent bonds yield to maturity 6.62. Dallas Power & Light Company first mortgage sinking fund "C" five per cent bonds yield to maturity 4.61. Dallas Power & Light Company first mortgage sinking fund "D" five and one-half per cent bonds yield to maturity 5.25. When I state the letter following the designation, that letter should have quotations to indicate the serial numbers—

[fol. 2060] Q. The series of the bonds?

A. The series of the bonds under discussion. The Texas Power and Light Company, First Sinking Fund, five per cent bonds, yield to maturity 4.21. Texas Power & Light Company, First and Refunding Bonds—by "First" I mean first mortgage—yield to maturity 5.69. Houston Light & Power Company, First Mortgage and Refunding "A", five per cent Bonds, yield to maturity 4.73. Houston Light & Power Company, First Mortgage and Refunding, "D", four and one-half per cent, yield to maturity 4.57. Houston Light & Power Company, First Mortgage and Refunding "E" Bonds, four and one-half per cent, yield to maturity 4.57.

Q. Mr. Connor, have you prepared a compilation of the average yield to maturity on the First Mortgage Bonds of the several natural gas producing and pipe line companies operating in the United States whose property and business is substantially similar to the property and business of the defendant Lone Star Gas Company?

A. I have.

Q. What are the names of those companies?

A. The Cities Service Gas Company, Southern Natural Gas Company, El Paso Natural Gas Company, The Mississippi River Fuel Company, and the Oklahoma Natural Gas Company.

[fols. 2061-2062] Q. What is the average yield to maturity of the first mortgage bonds of those producing and pipe line companies?

A. 10.18 per cent.

Q. Mr. Connor, are you familiar with the net rate of return which has heretofore been allowed by the Railroad Commission of Texas involving natural gas properties and rates for service?

A. I am.

* *

[fol. 2063] Q. Prior to September 13, 1933, when the Railroad Commission of Texas entered its order against Lone Star Gas Company in Gas Utilities Docket No. 75, what was the lowest net annual rate of return which had been fixed by the Railroad Commission of Texas in connection with its determination of rates for natural gas service?

A. Seven per cent.

Mr. Stout: We make this objection, that this is a pipe line. Any rate heretofore fixed for any utility is no more than a local rate for a city; that conditions were different; that it is a legislative—rate-making body; that times and conditions, which courts take judicial knowledge of, have materially changed—what might have been a good rate last year or in the wake of the middle of the greatest economic depression on earth, would not hold good now.

The Court: I will overrule the objection.

Mr. Stout: Exception.

A. Seven per cent per annum.

Q. Upon the fair value or rate-base determined?

A. That is correct.

Q. Mr. Connor, do investors in natural gas producing and pipe line enterprises expect, demand and receive higher [fol. 2064] yields on investments than they do in the way of yields on similar securities of companies engaged in the ownership and operation of natural gas distributing plants?

A. They do if the distributing plant in question is located in a city sufficiently large to justify the operation of a manufactured gas plant, should the supply of natural gas be exhausted. In smaller cities and towns where that condition would not prevail, the feeling of the investor toward

that investment is practically the same as toward the pipe line portion of the business.

Q. Mr. Connor, you have given some prices of bonds and senior securities of the Texas Cities Gas Company, County Gas Company, Dallas Gas Company, and Municipal Gas Company. Are those companies, which you have mentioned and testified about, well-managed and well-operated public utilities?

A. They are.

Q. Are they solvent and going concerns?

A. They are.

Q. In your opinion, are their senior securities regarded as prime public utility securities, in so far as the natural gas business is concerned?

A. That is correct.

[fol. 2065] Q. Mr. Connor, what is the cheapest money that a public utility enterprise can get?

A. The money secured by a first mortgage on its property and business.

Q. What is the next cheapest money that a public utility enterprise can get?

A. The money secured through the sale of preferred shares—that is, shares whose return is superior to the return to the common stockholders.

Q. And what is the most expensive money that a public utility enterprise can get, in so far as its capital structure is concerned?

A. The money secured through the sale of common shares.

Q. Now, Mr. Connor, on yesterday you stated that, in your opinion, a net annual rate of return of ten per cent per annum would be necessary to constitute a fair rate of return for the Lone Star Gas Company. Did you mean to apply that ten per cent net per annum after the payment of all proper operating expenses, including all proper depreciation reserves and accruals?

A. That is correct.

Q. And your ten per cent net per annum was applicable to what?

A. To the fair value of the property.

Q. As determined?

[fol. 2066] A. That is correct.

Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Connor, your entire Exhibit No. 42 is introduced for the purpose of showing what the annual requirements of the Company for depreciation are,—is that correct?

A. That is correct, and the term “depreciation” being construed as defined by me in my direct testimony.

Q. Now, to justify the importance of this exhibit which you ascribe to it, Mr. Connor, assuming your rate base of \$75,000,000.00, plus—

Mr. Griffith: Mr. Fitzhugh, there had been no rate base of seventy-five million.

Q. Well, your fair rate of property of seventy-five million as estimated by you, Mr. Steinberger, and Mr. Biddison, collectively, and the rate of return of a minimum of ten per cent which you say would be in order, and which would give annually on the fair value of the property, if allowed, an income of some seven and one-half million,—this amount which you allow for depreciation is about half [fol. 2067] of that amount, isn't it, being in excess of three million, five hundred thousand, or slightly under three million, five hundred thousand—three million, four hundred and sixty-five thousand, plus?

A. It is just what the exhibit shows, Mr. Fitzhugh.

Q. Well, this exhibit here, just to sum up the thing, represents about half of the rate of return that they would get on the fair value as found by you and Mr. Biddison, doesn't it?

A. That is approximately correct, yes.

Q. And if, on the other hand, instead of accepting the fair value as found by you and Mr. Biddison, some amount should be—less than fifty million dollars should be the value of your property, and a rate of return assumed such as the Railroad Commission found of six per cent, your depreciation requirements would be even more than the return on the value of the property, would they not?

A. I would have to make an application of the different rates to the units of property, but I believe that the rates would probably be in excess of six per cent as found by the Commission. I am not sure.

Q. Now, then, Mr. Connor, the word “depreciation” has

been used in several senses in this hearing. In the broad [fol. 2068] sense, Mr. Connor, depreciation means simply a loss of value, does it not?

A. That is what I would say; yes, Mr. Fitzhugh.

Q. Now, we have constructed in connection with Mr. Biddison's testimony on the per cent condition the depreciation—the accrued depreciation or the loss of value that now exists in the property as it stands to-day, due to its wearing out in service, have we not?

A. Yes, sir, that is correct.

Q. That type of depreciation, we might distinguish as being the accrued depreciation, and it is so called, is it not, ordinarily?

A. That is correct.

Q. Now, there is another type of depreciation which represents the depreciation reserve which has been built up, as shown by the books of the Company, by laying aside annually certain amounts to take care of the wearing out of property in service?

A. No, sir.

Q. What is your answer?

A. No, sir.

Q. You say depreciation is not properly used in that sense?

A. No, sir.

[fol. 2069] Q. You mean the Company has no depreciation reserve?

A. No.

Q. What do you mean?

A. I mean that what is in the reserve account has nothing to do with depreciation.

Q. Well, I don't think you understand my question, Mr. Connor. There is such a thing as a depreciation reserve, isn't there?

A. Yes, sir; that is a bookkeeping designation, yes, sir.

Q. And as it appears on the books of the Company now, there is a credit balance in that reserve of some fourteen million dollars, is there not?

A. I am not sure as to the amount, but I am certain that there is—

Q. Some credit balance?

A. —some credit balance.

Q. Well, now, that credit balance represents the total sums of money that have been put away in the past, an-

nually, to take care of the wearing out of property,—isn't that right?

A. They represent the bookkeeping entries set up on the books for the purpose of making that distinction with reference to the money received by the Company from the service.

[fol. 2070] Q. Yes, sir; and "depreciation," as the word occurs when you use it in the phrase "depreciation reserve" there, has no relation to the accrued depreciation that Mr. Biddison talked about, does it?

A. Absolutely not.

Q. And you get at that sort of depreciation reserve by accounting testimony, ordinarily, do you not?

A. Yes, sir.

Q. Whereas the other is engineering testimony, is it not?

A. Yes, sir.

Q. The type of depreciation you are talking about here is entirely separate and apart from the other two matters, isn't it?

A. No.

Q. Well, what is the connection, if there is any?

A. I take into account, as I testified yesterday repeatedly on direct testimony—I take into account the decline of new condition which will take place in the property, and that is the type of depreciation which Mr. Biddison testified concerning; but that is only one of the things which would be required of a depreciation reserve accrual.

Q. Well, is there any connection between the accrued depreciation, or the per cent condition of property today, and the annual requirements for depreciation?

A. None whatever.

Q. Now, Mr. Biddison found a reproduction cost new [fol. 2071] value of \$73,983,405.57; he found the overall per cent condition of the property to be 94.26 per cent; or the depreciated present value of \$69,738,021.16. In other words, the total accrued depreciation which has taken place from the time the company was organized up to date, in his appraisal, was about \$4,200,000.00, in round figures; is that correct?

A. That is correct; with this further explanation, which, I think Mr. Biddison made, and that is that, there were certain accrued depreciations which he would have found on gas well construction and equipment had it not been an immaterial matter in view of the manner in which Mr.

Huley made his determination of the value of the gas reserves; and the reason for that, of course, being that Mr. Huley deducted from the gross value of his estimated gas reserves the hundred per cent reproduction cost of gas well construction and equipment; so the fact that he did that relieved Mr. Biddison of the necessity of making a determination of the per cent of new condition of the gas wells. With that exception, your statement is correct.

Q. As a matter of fact, Mr. Connor, gas well equipment does not appear in the appraisal at all, does it, the way the thing has been handled—it has been put in one place and taken out another?

A. Yes; but it is in Exhibit 28.

[fol. 2072] Q. But the way the whole thing ends up, the final value found in the appraisal, there is no gas well equipment in it, is there?

A. Yes; there is a definite determination of the reproduction cost of gas well construction and equipment.

Q. Really there is nothing in it but gas reserves—if you put in your gas well equipment in your inventory, then you take it out again when you get your gas reserves?

A. Oh, there is a deduction of that; but there is a specific finding in Exhibit 28, and that finding is definitely set out.

Q. But your end result, so far as it applies to gas reserves, is just a washout?

A. That is correct.

Q. So that while Mr. Biddison found that at the present time, or at the date of his appraisal, there was only \$4,200,000.00 depreciation that had occurred on the property during all its operation from 1909 down to this time, your amount is almost as much as that total depreciation per annum, isn't it?

A. That is correct.

Q. Page 1 in your Exhibit No. 41 is the first sheet of your summary, is it not?

A. That is correct, yes, sir.

Q. The first item is developed leaseholds—that is the [fol. 2073] first item which you find deserves some consideration as far as annual depreciation is concerned?

A. That is correct.

Q. The amount you figure for this type of property is \$146,000.00 annually?

A. That is correct.

Q. Now, in your text a discussion of this class of property appears on page 311, does it not?

A. That is correct.

Q. This amount of depreciation of \$146,000.00 per year is based upon a withdrawal of twenty million thousand cubic feet?

A. If you will permit me to correct you, Mr. Fitzhugh, that is depletion allowance, rather than depreciation; there is a distinction.

Q. Well, depletion is simply depreciation of gas wells?

A. No.

Q. What is the difference?

A. Depletion is the waste of a capital asset, which is being used up—like taking gravel out of a gravel pit, or coal out of a mine.

Q. Well, that is loss of value, isn't it?

A. It is loss of the use of a thing in existence, yes, sir.

Q. Depreciation is also a loss of value.

[fol. 2074] A. Yes; but brought about by entirely different causes, and so differently construed.

Q. Call it what you will, you have figured this amount on a withdrawal of twenty million thousand cubic feet per year, have you not?

A. That is correct.

Q. What were the actual withdrawals of gas in 1933 by the Company?

A. From their own wells?

Q. Yes, sir.

A. I don't know exactly; I would think approximately six billion cubic feet of gas.

Q. Wasn't it more nearly five billion?

A. I don't know definitely; I would say it was somewhere between five and six billion feet.

Q. At any rate, the withdrawal rate that you have assumed is from three to four times as much as was actually withdrawn in 1933, was it not?

A. You are absolutely correct.

Q. Or in the year 1932 or 1931?

A. That is correct, also.

Q. At the rate your Company is withdrawing gas in 1934, the final withdrawal figure will be pretty close to the 1933 figure, will it not?

A. I have not made a check on those figures.

Q. There will not be any great variation, will there?

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[fol. 2075] A. There might be.

Q. To what extent?

A. The withdrawal from Company wells may increase the 1934 over the 1933.

Q. Do you know what the withdrawals thus far have been?

A. No; I don't.

Q. It is safe to say that you won't withdraw more than seven billion cubic feet from your wells this year, isn't it?

A. That might be a very good estimate.

Q. That is the most they would withdraw?

A. No; I would not say it would be the most they would withdraw, or that they might withdraw.

Q. Why is it that you think, Mr. Connor, when your Company at the present time is only withdrawing five to six billion cubic feet of gas per year that the rates ought to be so fixed as to assume that there is a withdrawal of twenty billion cubic feet?

A. Because, after having made a study of every source of supply available to Lone Star Gas Company, which study was made in conjunction with Mr. J. H. Dunn, and was extremely careful and comprehensive, I reached the conclusion that the figures that I had put into this exhibit will be the average rate of withdrawal during the next nineteen years of the Company's operation from its own gas reserves, and as defined by Mr. J. H. Dunn.

[fol. 2076] Q. Do you mean that you obtain your twenty billion withdrawal figure by averaging nineteen years as estimated by Mr. Dunn as to withdrawals?

A. Mr. Dunn did not make the estimate; I made it.

Q. Where did you get your twenty billion figure—is it a calculation?

A. It is an estimate, based on all of the information available relative to the behavior of the sources of supply of Lone Star Gas Company, and which sources of supply would be the determining factors of the rate at which Lone Star Gas Company would withdraw it.

Q. Why wouldn't it be a fairer proposition, Mr. Connor, to readjust the rates, or to readjust the depreciation or the depletion allowances for gas reserves to take care of an annual consumption of that amount, rather than to apply at the present time that enormous consumption?

A. For the reason, I believe, Mr. Fitzhugh, that the total sales per annum of Lone Star Gas Company in the future

will in no way correspond to the variation from year to year which will take place in the volume of gas withdrawn from the Company's own resources.

Q. Is there any reason why the depletion allowance could not be readjusted to take care of the depletion rate when that increased depletion comes about?

A. Certainly not, if it is deemed that that is the proper [fol. 2077] way to do it; but I just don't believe that is the proper way to do it.

Q. At any rate, the \$146,000.00, which you say should be covered by present rates, is based on a withdrawal of three or four times what is being presently withdrawn?

A. That is correct, and the estimate which I have made covering that point is backed up by a most comprehensive and extensive study of what those future withdrawals will in all probability actually be.

Q. Well, they are just comprehensive prophecies, aren't they—no facts about them?

A. About three hundred typewritten pages of facts.

Q. You can't prove a thing by the number of typewritten sheets, can you?

A. But I would prove it by the information contained therein, and the reliability thereof.

Q. You couldn't prove black is white if you had a whole library introduced as an exhibit to prove it, could you?

A. No; but I have proved very definitely and concisely that, for instance, the casinghead plants in Central West Texas, from which Lone Star Gas Company has in the past secured—

[fol. 2078] Q. Take up the next—

A. I haven't finished my answer.

Q. Pardon me.

A. —as high as seventeen billion feet per annum have declined to such a point that there is no expectation on the part of Lone Star Gas Company of receiving a substantial amount of gas from that source in the future.

Q. Yesterday, if I understood you correctly, Mr. Connor, when you gave the figure of 3.98 years for the life of gas wells, you meant that that applied only to company-owned wells; is that right?

A. No, Mr. Fitzhugh. You misunderstood my answer. If reference is made to page 230 of Exhibit 42 the tabulation shown on that page as indicated by the total tabulation shows the weighted age of gas wells now serving the system of Lone Star Gas Company, exclusive of the Petrolia field; in other words, the 531 wells which are shown as of the date of this appraisal to be connected to the Lone Star Gas Company system are all the wells, both company-owned and other-owned wells, and the figure 3.98 is the weighted age of the wells in question.

Q. Well, now, on page 231 of the tabulation you have just [fol. 2079] referred to you show the weighted age to be 8.8697, do you not?

A. Yes, and that is an entirely different determination, and, as indicated by the title of that tabulation, that determination is the weighted age of abandoned gas wells that have served the system of Lone Star Gas Company, exclusive of the Petrolia field. Assuming that each and every one of those wells which have been abandoned throughout the history of the company was still actively serving the system;—in other words, that every well which has hitherto been attached to the system of Lone Star Gas Company was still serving the company as a producing well—the age of all these wells combined and weighted out would be an average of 8.67 years.

Q. Well, now, where is the supporting data for the 3.98 years average life? Does that appear in your exhibit anywhere?

A. I don't believe that I have the details here.

Q. Well, what is this tabulation on page 230?—is that what that is supposed to be—page 230?

A. Isn't what supposed to be

Q. Isn't the tabulation on page 230 supposed to be the underlying data for the 3.98 years average life of gas wells?

A. It is the summary which shows two wells still connected to the system which were connected in 1920 and five still connected to the system which were connected in 1921, and so forth.

Q. Now, in these calculations to find the average life of gas wells you left out wells in the Petrolia field, the oldest field that the company operates in, did you not?
[fol. 2080] A. Yes.

Q. Some of those wells are over twenty years old, are they not?

A. I do not believe, Mr. Fitzhugh, that there are any wells in the Petrolia field that old. There have been a large number of wells abandoned in the Petrolia field from time to time and along with the years there have been no wells drilled in the Petrolia field.

Q. Well, are any of the wells now in the Petrolia field twenty years old or approximately that age?

A. There may be.

Q. Well, why did you lease those out in finding the average life of the wells?

A. My reason for that is specifically covered and set out in the exhibit.

Q. Well, what is your reason?

A. My reason for the omission of wells from the study I was making is simply this: that the Petrolia field is in the back yard, so to speak, of a main line compressor station—that is, a compressor station which will remain in that location without reference to a supply of gas locally provided for the station. Now, with the compressor station in the middle of a gas field of that kind and a main line station, wells can be and are operated long after those wells would be operated if they were away from a compressor station or if they were adjacent to a compressor station which by its design and purpose would be one which would be subject to removal to a larger gas supply. Those wells do not have any relation on account of that fact to the normal behavior and experience of gas wells not so located.

Q. The average life of wells in the Petrolia field as shown by the history of those wells works out about fifteen years, does it not?

A. It might. I have made no study of the average life of the wells in the Petrolia field for the reason which I have given.

Q. Now, regardless of what may be the reason for the prolonged life of the wells in the Petrolia field, the company does have those wells and they do form a part of the gas reserves of the company, as testified to by various other witnesses. Now, if you wanted to give a typical figure for the average life of the wells wouldn't you have to include those wells?

A. I would not, for the reason that that is only one situation on the entire system of the Lone Star Gas Company where there is a main line station anywhere near a gas field, and there is no probability of a repetition of any such situation elsewhere in the system.

Q. Well, just what is the figure, Mr. Connor, you are trying to give the jury, now, which you say will represent the average life of gas wells of Lone Star Gas Company system?

A. I have not attempted, Mr. Fitzhugh, to give any estimate of the average life of gas wells. What I have done is simply to tell by means of this exhibit how old these wells are.

Q. Well, what is the purpose of all these determinations unless you are trying to find how long the wells are going to last—find what the average life of gas wells is?

[fol. 2082] A. The purpose of that is to show the age of the wells which are now serving the system and the age of the wells which have served the system, assuming that they were still in service. I have also set out very clearly and definitely the wells which have been abandoned and the rate at which they have been abandoned by years. Now, as for an attempt to determine the average life of gas wells, that is something which I am not able to do and I don't think anybody else is able to do.

Q. Suppose you had a house, Mr. Connor, and you knew that that house was three years old and that houses of the same kind as the one you had usually last about ten years and you knew the present value of the house new and that it would be nil or zero at the end of the ten-year life. You would then know what sum to set aside annually to retire that investment, would you not?

A. That is correct.

Q. But what good would it do you, Mr. Connor, to know the age of the house new if you didn't know how long it was going to last?

A. I don't think it would do you any good at all. I have stated that fact very clearly in connection with the determination which I have made for gas well construction and equipment.

Q. On this gas well proposition, Mr. Connor, what good does it do you to know your wells unless you figure out what their probable life will be so as to know what sum of money per annum would be required to retire the investment at some future date.

[fol. 2083] A. I have used this information, Mr. Fitzhugh, somewhat along the lines you suggest, and have incorporated the results of my investigation in the report itself; but I frankly stated in connection with it that I didn't think it had any particular weight, for the very reason that you have suggested; that nobody can tell how long a gas well is going to last, because it does not depend upon the passage of time; it depends upon other factors which can not be definitely foreseen.

Q. Is it your testimony now, Mr. Connor, that you don't know the probable life on the average of gas wells of the company?

A. Do you mean those that have expired, or those that are still in service?

Q. No, the ones in existence right now.

* * * * *

Q. Now in existence?

A. I do not.

Q. In the hearing before the Railroad Commission you testified for several days on that very matter, though, did you not?

A. I made some estimate along that line, yes, Mr. Fitzhugh.

Q. What were the estimates you made then for the probable life of gas wells in existence as of that date?

A. I don't recall. If you have a copy of the report there you can probably give me the information.

[fol. 2084] Q. Isn't it a fact, Mr. Connor, that at that hearing, page 83 of the exhibit you introduced at that hearing, Exhibit 18, entitled Depreciation Analysis Determination of Annual Reserve Accruals for Various Items of Depreciable Property, that you testified for the combined Oklahoma and Texas wells in reference to a consideration of 347 wells times 13.86 years and 100 wells times 9.80 years that you found a weighted life expectancy of 12.95 years?

A. That is no doubt correct as to the statement found in the exhibit, but the estimate was made upon certain assumptions and after—

Q. Well,—

A. Wait a minute. And after spending about six months trying to work out some rational analysis which could be used to make a reasonable determination of the average life

of gas wells which would be more than a mere assumption I gave it up as a bad job.

Q. I will ask you if at the same hearing, Mr. Connor, in testifying as to the Texas wells if you did not find the total life expectancy to be 13.86 years?

A. I am quite sure that what you say is correct, based upon the assumption set out in the report.

Q. Now, then, on yesterday, Mr. Connor, you criticized the finding of the Railroad Commission on page 55, where they said: "We find the weighted average life of the Lone Star Gas Company gas wells to be not less than thirteen years", and I will ask you this question, Mr. Connor: [fol. 2085] Wasn't the finding of the Railroad Commission just as exact as it could be, based upon your own testimony?

A. No, sir; I don't think so.

Q. You don't deny that your exhibit shows 13.86 average life for Texas wells and 12.95 weighted life expectancy for combined Texas and Oklahoma wells, do you?

A. I would have to refer to the exhibit before I could answer your question, Mr. Fitzhugh, as to what actually was determined by me. I recall that there was quite a little bit of controversy as to what that exhibit was intended to show. As I recall, without referring to the exhibit, I made an estimate based purely upon certain assumptions—

Q. Isn't it a fact—

A. Well, now, wait a minute, Mr. Fitzhugh.—that a certain number of wells would be drilled and that each of those wells would have an average life of a certain number of years and that a certain per cent of wells would be drilled and that those wells would have a certain average life, and there was a great difference in the conclusions which I drew from my own conclusions and those which Mr. Freese drew.

Q. Well, now, frankly, Mr. Connor, you know how the hearing before the Railroad Commission went, don't you?

A. Yes, sir.

Q. You were the only one that testified on this particular matter?

A. Yes.

Q. Didn't the Railroad Commission have to accept the [fol. 2086] figures to find that thirteen-year average?

A. Yes; but what I am trying to explain, Mr. Fitzhugh, is this: that there was a great deal of difference between an

arithmetical average and a calculation based upon the repetition of a certain occurrence as applied to a certain proportion of a total sum or the repetition of an occurrence in connection with the other portion of the other item, and that can be very easily demonstrated mathematically.

Q. At the bottom of page 55 of the Commission's order this sentence occurs: "We find the weighted average life of the Lone Star Gas Company gas wells to be not less than thirteen years." Now, Mr. Connor, isn't it a fact that after having gotten the Railroad Commission to make this finding based on your testimony at the other hearing you are now changing the whole thing and trying to vary your testimony?

A. I am trying to vary my testimony?

Q. Yes.

A. Absolutely not. I am frank to state that after the hearing in Fort Worth I am—I completely abandoned any effort to determine the average life of gas wells, because I found that there wasn't any way in the world to do it.

Q. You have now adopted an entirely new, different and separate method from the one you used at the other hearing?

A. That is correct, and I think I have properly done so.

Q. Well, now, make clear, Mr. Connor, just exactly what the impression is you are trying to leave the jury about this 3.98 average of wells.

[fol. 2087] A. I am not trying to leave any impression with the jury, Mr. Fitzhugh, other than clearly disclosed by the previous exhibit itself, which I have read into the record verbatim.

Q. Yesterday your testimony on this matter was as follows: "Answer: Mr. Griffith, exclusive of the wells in Petrolia field, and covering 531 wells which are now attached to the system, the average life of this well or these wells up to this time—and that is all the experience that we have in connection with this particular subject—has been 3.98 years." Now, as I understand you, you don't intend for that figure to represent in any way the average life of wells?

A. No, sir.

Q. Or what is to be expected of the wells now in existence?

A. No, and there was never any intention to leave that impression.

Q. So all this means is that that is probably the age of some of the wells now in existence?

A. No; that is the weighted age of the wells now serving the Lone Star Gas Company, and that is all it intends.

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[fol. 2088] Q. Now, Mr. Connor, if I understand you correctly, you do not attempt now to find any average life of the gas wells now in existence.

A. I don't quite understand what you mean by that question, Mr. Fitzhugh. If you mean the average life of the wells up to this time, I do.

Q. No, sir, I mean the average life that may be expected—the life expectancy, if you please, of the wells now in existence and connected to the System as of to-day, or as of the date of the appraisal?

A. That is correct.

Q. And I believe you say you don't believe that anybody could make that finding?

A. I am quite sure they could not.

Q. Now, Mr. Huley in finding his value for gas reserves found the number of wells that were operated each year, did he not, and the number of wells that would be operated each year for about the next twenty years?

A. Well, now, Mr. Fitzhugh, my recollection of just exactly what Mr. Huley did in connection with that exhibit may be not altogether exact, and so I wouldn't like to be taken as expressing a definite opinion as to just exactly what Mr. Huley did. I know in general the method that [fol. 2089] Mr. Huley used; I am familiar with it because I worked with Mr. Huley in connection with the preparation of the exhibit, and I think that what he did was to make a schedule of the probably drilling determined largely upon the advice of Mr. J. H. Dunn, the Production Engineer of Lone Star Gas Company, and that schedule of drilling was based upon what Mr. Dunn's estimate of the number of wells, variously located, which would be required, throughout the period of the depletion of the reserves, to physically withdraw the gas from the reserves. Now, is that approximately what your interpretation of the exhibit shows? Now, that is my recollection of it.

Q. Well, you had to know all about Mr. Huley's method in order to find your depletion charge of \$.0073 per 1000

cubic feet; which is found on page 312 of your exhibit, did you not?

A. Not necessarily, Mr. Fitzhugh, because that information was, of course, furnished me by Mr. Huley, based upon his independent determination of the unit value present worth basis of the gas in the ground under the reserves of Lone Star Gas Company. I took that figure from Mr. Huley and accepted it.

[fol. 2090] Q. All right. Now, Mr. Connor, if you will look at Mr. Huley's Exhibit 31, page 5, you will find that he estimated that there would — 135 wells drilled; and that the drilling of those wells would be necessary, I believe he said, to fully develop the gas reserves as they now exist,— is that correct?

A. How many additional wells?

Q. 135. That is, he shows on that page the total of gas wells now owned and operated at 262, and then he finds that additional wells will have to be drilled to recover the gas reserves, in the amount of 135, to get the total of 397 wells that he finds to be necessary for the development—

A. I presume that your statement is absolutely correct, and it confirms exactly or almost exactly the estimate which I have used on page 199 of Exhibit 42, wherein I show that the number of wells now in actual use are 261.44. Now, the reason for having a fractional part of a well in service (which appears rather ridiculous on the face of it) is due to the fact that Lone Star Gas Company has part interest in certain wells, and the summation of those fractional interests results in the figure shown, of 261.44 gas wells; and I also show that the additional wells which will be required to recover the reserves are 140, contrasted with the 135 [fol. 2091] used by Mr. Huley; but I made a note in connection with that figure, which states that included in the 140 wells are 5 wells now producing gas, but not included in the current appraisal; in other words, we checked out exactly.

Q. What is the purpose of the estimate that you are talking about there?

A. The purpose of the estimate which I show on page 199, Exhibit 42?

Q. Yes, sir.

A. That is to determine the money cost of the wells now attached to the System of the Lone Star Gas Company,

together with the undistributed costs and the estimated cost of the future wells which will be required to recover the gas.

Q. Did you work out this table shown on page 199 yourself?

A. No.

Q. Where did you get that?

A. The first part of the determination or tabulation was taken from the appraisal which represents the reproduction cost new of the wells as determined by the appraisal, plus the undistributed overheads allocated to the wells, and the second tabulation which—

Q. Which is the one I am talking about.

A. Which includes the future drilling, together with the [fol. 2092] five wells, as explained by the tabulation, which were put into service subsequent to January 1st, 1933, was furnished by Mr. J. H. Dunn, the Production Engineer of Lone Star Gas Company.

Q. Did Mr. Dunn, in order to get this tabulation, assume any average life of wells?

A. I don't think—no, what Mr. Dunn did was to estimate the production which could be secured by means of a well, and that production might be secured over a long period of time or it might be secured over a very short period of time, and in that case the average life of a well, on the one hand, would be long, and under the other assumption it would be very short.

Q. Well, on page 199, where you show that Mr. Dunn has estimated 86 additional wells for the Panhandle Field, that number, 86, is not based on any average life of wells, but is simply Mr. Dunn's estimate of how many wells would have to be drilled to give a certain amount of gas, isn't that right?

A. That is right; and that is based upon a certain ratable delivery of gas, as well as volume.

Q. All right. Now, to go back to Mr. Huley's exhibit—page 5, Mr. Huley has found the number of wells now in existence, the number of wells that will have to be drilled, [fol. 2093] the cost of drilling and of all operation, the exact amount of gas down to the cubic foot that will be withdrawn from these wells, by periods, and he had to find, to do all this business, the average life of his wells, did he not?

A. No, I don't think so.

Q. Doesn't he show on page 5 that the estimated number of years the wells will be operated to recover the gas reserves is twenty?

A. That is correct; the total period of time to recover the reserves is estimated to be twenty years. Now, some of these wells might last a month—

Q. Well, how could he find the operating expenses unless he knew the length of time the wells were supposed to run?

A. I don't know, Mr. Fitzhugh. You are cross examining me about an exhibit that I didn't prepare.

Q. I know, but you have adopted his figures, and I want to know how much you understand about his exhibit, to see what basis you had for adopting his figures.

A. Well—

Q. To make myself clear, Mr. Connor, in your exhibit, where you find that there should annually be accounted for in the rates for depletion—or for depreciation and depletion requirements on gas wells, you find the amount of [fol. 2094] \$421,316.00, do you not?

A. That is correct.

Q. Isn't that based entirely on Mr. Hulcy's exhibit?

A. Absolutely not.

Q. Well, the depletion charge that you find in the last sheet in your exhibit, on page 312 of Exhibit 42, of \$.0073 per 1000 cubic feet, is a direct calculation, is it not, from Mr. Hulcy's Exhibit 31?

A. You are exactly correct.

Q. And you use all of Mr. Hulcy's figures, notwithstanding you do not understand how he got them, is that it?

A. I understand, in a general way, how he got them, yes; I don't know the details of Mr. Hulcy's calculations, but I know the method very precisely, as to how he went about it.

Q. All right; that is all I wanted to know. Now, doesn't Mr. Hulcy's method include the carrying forward into his calculations all assumed operating expenses of the wells, by years, and in order to get those wouldn't Mr. Hulcy have to know how many years the wells were going to operate?

A. You would have to assume that an exact number of wells were operated each year, yes.

Q. And doesn't his whole calculation of gas reserves depend upon the length of life of the wells?

[fol. 2095] A. No, I wouldn't say so.

Q. If he assumed a long life for his wells, his gas reserves would be inevitably a smaller amount in dollars and cents, wouldn't they?

A. If he assumed that each and every well which is in service to-day would remain in service throughout the entire recovery period of the reserves, is that what you mean?

Q. No, sir, I mean exactly what I said.

A. Well, that is a long life; that would be the longest life they could have.

Q. All right, if you assumed that, he wouldn't get any accrual for gas reserves, would he?

A. Oh, he certainly would.

Q. If each well lasted up until 1954, the operating expenses would be so great by that time that the accrual for gas reserves would be wiped out, wouldn't it?

A. I don't know just how that calculation would work out, Mr. Fitzhugh. As I said before, you are cross examining me about an exhibit that I didn't prepare.

Q. I know, but it is one you are adopting for the purpose—

A. Oh, yes, I think it is perfectly proper for me to accept [fol. 2096] the findings of a man who was specifically engaged in making a specific determination. I made no determination of the unit costs and of the unit value of the recoverable reserves of the Lone Star Gas Company.

Q. Now, besides depending on Mr. Huley's exhibit to get your depletion rate of \$.0073 per 1000 cubic feet, as shown on page 312 of your Exhibit 42, you also assume the twenty billion dollar—I mean the twenty billion cubic foot consumption per year, do you not—as shown on the same page of your exhibit?

A. No.

Q. Well, what did you assume as the withdrawal rate?

A. I made a very careful calculation of what the average annual withdrawal rate would be, and I made that calculation myself.

Q. Well, the one you got is the twenty billion figure?

A. That is the one I am referring to, yes.

Q. What did Mr. Huley get?

A. I don't recall.

Q. Now, in order for you to be justified in accepting Mr. Huley's value for his gas reserves, or to figure from his value for gas reserves, your \$.0073 per 1000 cubic feet as a

depletion charge, you should have assumed, should you not, [fol. 2097] Mr. Connor, the same withdrawal rate as the one assumed by Mr. Huley; in other words, if you used twenty billion cubic feet as the annual withdrawal rate, that should coincide exactly with the withdrawal rate used by Mr. Huley—isn't that true?

A. I think that is substantially correct, and I think, as a matter of fact, that Mr. Huley's withdrawal rate was very largely fixed by the calculations and determinations which he had made. So there could be no real serious disagreement between Mr. Huley and me on that point.

[fol. 2098] Q. But in these cases, whether Mr. Huley made the assumption or not, and adopted the same figure as used by you of twenty billion cubic feet annual withdrawal, that is three or four times the present amount being withdrawn?

A. That is absolutely correct.

Q. And if you have incorrectly computed the withdrawal, and your twenty billion cubic feet is wrong, then it is inevitable that the amount of \$421,316.00, which you call for the annual depreciation on gas wells, would have to be wrong?

A. No, sir.

Q. Why do you say that?

A. Because if Mr. Dunn's calculations of the amount of gas which Lone Star Gas Company will recover from its reserves designated as proven and developed is greater than the amount of gas which they will actually recover from those same reserves, then the \$412,000.00 that you refer to, will be found by a lesser annual average withdrawal.

Q. Whereabouts in your exhibit do you show how you derived the \$421,316.00 for Gas Wells?

A. It is shown on page 207, Mr. Fitzhugh.

Q. Now, as shown under your paragraph heading "Conclusion, on page 207, you show that the annual allowance for Recovery of Physical Property and General Costs, \$.0206 times 20,000,000, to get the \$412,000.00 appearing in the margin?

[fol. 2099] A. That is correct.

Q. Now, doesn't that show that you used in calculating this figure the 20 billion cubic feet withdrawals?

A. Absolutely.

Q. Now, suppose you had assumed only five billion, as

is actually being withdrawn, what would be the amount computed?

A. Something in excess of one hundred thousand dollars.

Q. About \$103,000, instead of \$412,000, wouldn't it?

A. That is correct.

Q. Then, the \$.0206 just referred to, is a depletion allowance per thousand cubic feet, isn't it?

A. It is an allowance per thousand cubic feet of production by means of a certain piece of physical equipment set up for the purpose of retiring the reproduction cost of that equipment.

Q. It covers all depreciation on gas wells, doesn't it?

A. No; it does not, Mr. Connor. I might state in that connection I have made no inclusion for current replacements which are charged to the depreciation reserve account of Lone Star Gas Company by reason of actual physical replacements on gas wells. That is not a large amount of money, but I have made an analysis of that account for the past six or seven years, and even though the gas wells of Lone Star Gas Company are comparatively new, that account averages around five thousand a year, but I have made no allowance in this estimate for them. However, that is an actual out-of-pocket charge to the depreciation [fol. 2100] reserve account represented by current replacements to gas well equipment, so that figure I show there does not include that item.

Q. After applying this unit cost per thousand cubic feet of \$.0206 to the twenty billion cubic feet withdrawals, or rather to the twenty million thousand cubic feet, doesn't that retire one hundred per cent and return to the Company one hundred per cent of the cost of those gas wells?

A. It is intended to do that, yes.

Q. All right. Now, if it actually does it, Mr. Connor—returns the whole investment in gas wells one hundred per cent, why would there be any annual allowance for the decline in per cent of condition new of \$38,943.00, which you added in to find your total?

A. Because I have subtracted that, Mr. Fitzhugh, from the—The gas well construction and equipment is deducted from the amount of property which will ultimately be amortized, and the per cent of new condition which Mr. Fitzhugh has applied applies to the property as a whole. In other words, that rate of decline, Mr. Fitzhugh, represents ap-

proximately one per cent per annum of weighted age, as applied to the whole property. Now, if I had taken out the gas well construction and equipment account from the whole property and applied the per cent to the rest of the property, the one per cent would have been increased in [fol. 2101] an amount equal to the part applicable to gas well construction and equipment. It is six of one and a half-dozen of the other; and I have taken through this appraisal one per cent on all of the equipment, because the rate of decline that Mr. Biddison has shown as applied to all of the equipment is one per cent. Had I segregated from the property accounts certain items, and not charged a decline in per cent of new condition to them, there would have been a corresponding increase in the amount estimated for the other.

Q. If I understand you, you say the reason you put in this \$38,943 is because it is taken out some other place?

A. It is equivalent to that. In other words, had I not had it here, I would have increased slightly the rates I applied to the other items of property.

Q. It is included here?

A. Yes, sir.

Q. Where did you say it is taken out—I didn't quite understand you?

A. If we had one hundred thousand dollars worth of property, and there was a determination that the decline in per cent of new condition of that property was, taken as a whole, one per cent per annum, that would be one thousand dollars a year represented by decline in per cent of new condition. If I apply one per cent to each item in that [fol. 2102] one hundred thousand dollar property account in proportion to the amounts of money represented by them, I would come out again with one thousand dollars. Now, if we would say that on ten per cent of that property that the decline in per cent of new condition would not be applicable to that, but the overall cost required was still one thousand dollars, and I wanted to make a definite segregation of those property items, I might not charge anything against the ten thousand dollars I referred to; but I would have to increase the rate on the ninety thousand dollars remaining by a percentage which would in the total equal one thousand dollars.

Q. Well, on each item, then, where you are applying de-

preciation, are you going to have to go back and add in this one per cent for decline in per cent of condition new?

A. I have attempted to do it on each item, yes, sir, where it would be applicable, except in the case of lands.

Q. You don't on leaseholds either, do you?

A. Leaseholds were determined in an entirely different way.

Q. Well now, then, to try to go back and sum this thing up, Mr. Connor, if I understood you when we first started talking about the gas well figure that you secured for annual depreciation, you said you did not have to depend on the twenty billion cubic feet removals per year. Now, as [fol. 2103] shown on page 207, it shows that you did have to consider that, doesn't it?

A. I don't recall that I said that I did not have to depend on that figure. I said that I did not have to depend on anybody else to give it to me, because I have it myself.

Q. This much is shown, though, that you could not find your depreciation allowance of \$421,316 without assuming the twenty billion cubic feet of removals per year?

A. Without making a study and an estimate that that would be the average rate of withdrawals in the future.

Q. And without taking that same figure?

A. Oh, yes, I had to take that figure; but I did not take it from anybody else.

Q. And your amount of \$421,316 is based entirely on an assumed rate of removal of twenty billion cubic feet of gas per year?

A. No; on an estimated rate of removal.

Q. Well, on an estimated, then. In just the same way, the figure of \$146,000 for the developed leaseholds depended upon this withdrawal rate as estimated?

A. In so far as the withdrawal factor is concerned, that is absolutely correct.

Q. Now, if these two figures, the \$146,000 for developed leaseholds, and the \$421,316 for gas wells—what would have been the difference in your final depletion and depreciation amounts if you had assumed withdrawals of only five million?

A. There would have been obviously one-fourth, in so far as the item of \$412,000 is concerned. The \$38,943 would have remained the same.

Q. Isn't that method that you have adopted in using twenty million thousand cubic feet tantamount to making the present consumers of gas pay for the cost of future withdrawals?

A. No; I don't think that is altogether true, Mr. Fitzhugh.

Q. Well, if the present consumers are only using five million cubic feet, but are paying rates based on an assumed or estimated use of twenty billion cubic feet, doesn't that result in the present consumers having to pay in their rates for the future withdrawals?

A. In so far as the company's own production is concerned, your statement would hold true to the extent of the reserve accrual for gas well construction and equipment, and for depletion; but the very purpose of a reserve is to equalize and make uniform those very charges which are extremely variable in their nature.

Q. Well now, the things you just referred to are the things we are talking about, in your \$146,000 for developed leaseholds, and your \$421,316 for gas wells; so your answer would be "yes", wouldn't it?

A. That is correct.

fol. 2105] Q. Now, the next item is Other Production System Structures, the annual amount being \$878.88. Do you happen to know what page in your text you show that on?

A. Which particular item is that?

Q. Other Production System Structures.

A. What is the annual rate?

Q. Nine point three.

A. That is shown on page 287, Mr. Fitzhugh.

Q. As shown on page 287, for Production System Structures, as a part of the 9.3 annual rate of reserve accrual you show Current Replacements at 2 per cent per annum?

A. That is correct.

Q. What were the actual amounts charged to the depreciation reserve for current replacements of Production System Structures in 1933?

A. I don't know, Mr. Fitzhugh.

Q. Do you know for 1932 or 1931?

A. No; I do not.

fol. 2106] Q. Do you know whether the costs of current replacements for Production System Structures in 1931,

1932, and 1933 and up to the present time were being charged as maintenance or as charges to depreciation reserve on the books of the Company?

A. I do not know, specifically, Mr. Fitzhugh, with reference to the Production System Structures, but I do know that on Other Structures, concerning which I did make an investigation, that all charges properly chargeable to depreciation reserve in connection with the current replacements and maintenance of the structures have been charged to the reserve account.

Q. Well, without knowing those matters with certainty, Mr. Connor, how were you able to find the 2 per cent per annum for current replacements?

A. That is merely an estimate on my part, Mr. Fitzhugh, and is not supported by any record disclosed by the Company's books.

Q. Well, how did you go about making the estimate even?

A. Well, it is difficult for me to give you the mental process through which I went in making that estimate. That represents my judgment of what over the years the current replacements and proper items to charge to the reserve account would cost the Company. I do not think as a matter of fact, Mr. Fitzhugh, if I had made an investigation of the Company's records with reference to the Production System Structures that I would have secured a very accurate figure for the determination of the reserve accrual, for the reason that the Production System Structures of Lone Star Gas Company are relatively new.

Q. If you had, Mr. Connor, all the charges that were made on the books of the Company for maintenance of those structures for a period of years and all the charges that represented replacements and repairs that were charged to depreciation reserve, you would have a record of the costs of keeping those structures up to their now condition, would you not?

A. That would be charged up to this time, but it might not afford any indication of what the future might hold in connection with those particular items.

Q. If you had such records for any considerable number of years, it would be almost certain proof of what the future costs would be, would it not?

A. It might give you an indication if you had sufficient information over a sufficient period of time; that is true.

Q. In any event in finding your allowance of 2 per cent per annum for replacements you have not resorted to any sort of study at all, but simply used an estimate of your own?

A. I have made a study of charges to depreciation reserve accrual on gas farms, which would, of course, include repairs to gas wells.

Q. Well, you don't have anything as to Production System Structures.

A. Production System Structures are included in the proper account of gas farms.

Q. All right. Are they segregated from other property—gas farms?

A. Are gas farms segregated from other property?

[fol. 2108] Q. I say, are Production System Structures separated from other property that is in gas farms?

A. Yes, I have right here before me, Mr. Fitzhugh, the average per year for the last six years of the charges to the reserve account brought about by charges originating in the account of gas farms of Lone Star Gas Company and the average per year of the actual charges to the reserve account for structures on the gas farms is considerably in excess of my total allowance for the structures as shown on page 1 of Exhibit 41.

Q. Well, where on the sheet there in Production System Structures did you give the amount of repairs or costs of replacements that were charged to depreciation reserve?

A. The year 1919, repairs to structures charges to reserve account were \$1172.56; the costs of painting structures charge to reserve account was \$3444.14, compared to my allowance of eight hundred odd dollars for all items which I have included. The year 1930, the charge to reserve account for repairs to structures was \$2277.75.

Q. That was 1930? You gave 1919 before.

A. I meant 1929.

Q. You meant 1929. The next year was 1930?

A. Yes.

Mr. Griffith: I believe the witness did say 1919.

A. I want to make a correction there because I did not go back that far.

Q. Now, for the year 1920, what did you say the repairs were?

A. I have got the net amount \$277.75 and there was a [fol. 2109]-credit on that year of \$27.00. In 1931, there was no charge. In 1932, the repairs on structures were \$90.00. The year, 1933, the charges to repairs on structures were \$324.79, and on storage tanks \$72.26. The average per year for the four years to repairs on structures was \$310.84 and the average per year to paint structures was \$569.52. The sum total of those is approximately \$880.00 per year for that item which I have included in my estimate at 2 per cent. In other words, after referring to my notes I found that I had made an investigation of the actual charges to the reserve account of these particular items. I overlooked the fact when I answered your question the first time. By the accounting methods of the Lone Star Gas Company the charges to the reserve for these items are included in the property account gas farms.

Q. Did the \$569.00 for painting occur all in one year?

A. I think it did, Mr. Fitzhugh. I think all occurred in the year 1929.

Q. Now, what was it they painted—what is covered by that amount?

A. I don't know. I assume that they painted the cottages.

Q. Well, now, you could not tell from that sort of notation, could you, Mr. Connor, whether it was cottages, or what structures were painted, could you?

A. No; they are just what we call Production System Structures—that is all. I did not attempt to find out which cottages had been painted.

Q. How did you know that the structures painted were not Measuring Station Structures—that would be in the gas [fol. 2110] farm account, wouldn't it?

A. It might be. The 2 per cent which I have allowed would be sufficient—I mean is no more than sufficient to cover those costs, assuming that the Field Measuring Station cottages and the other items were included in the account.

Q. Now, the notes that you are reading from were taken from sheets that cover Account 61-A-10; is that right?

A. I don't know what the account number is.

Q. Well, at any rate, it is the account that covers everything in gas farms?

A. That is right.

Q. Now, your gas farm account includes all sorts of structures, does it not?

A. Yes, and so does Production System Structures include all structures.

Q. What, in addition to Production System Structures, does the gas farm account cover?

A. Gas well equipment.

Q. And what else?

A. Derricks.

Q. What else?

A. Pumping equipment.

Q. Does it include Field Measuring Station structures?

A. I believe that it would, I am not certain.

Q. And the pumping house structures?

A. Pumping equipment I have already mentioned.

Q. Yes, sir—and the structures that cover pumping equipment?

A. Yes, sir; that is correct.

[fol. 2111] Q. So, if you found an item for painting in your Company's farm account you would not know without a very careful analysis, if you know at all, just what structures it applied to?

A. No; I did not attempt to find out which cottages had been painted or which storage tanks had been painted.

Q. But what you did was take the total amount of painting shown in the account and assume that it applied to Production System Structures?

A. I don't know of anything else they could have painted out there.

Q. Well, at any rate, you assumed it was all upon Production System Structures?

A. I didn't do anything of the kind.

Q. You did if you used your actual study to compute it.

A. I did not use the actual study. I made that very clear. However, I did have the information.

Q. But you would not have any information at all, even after what you have described, that would allow you to compute the correct per cent for current replacements, would you?

A. No, and I would not compute current replacements on charges which have taken place in the past on Lone Star Gas Company Production System Structures, because they are

too relatively new to form a conclusion as to what the future would have.

Q. Suppose all the charges for current replacements on this type of property were charged to maintenance and taken care of currently through maintenance charges, would [fol. 2112] you then include the 2 per cent per annum for current replacement which you have on page 287?

A. I would not include it if Mr. Huley's accounting exhibits were based on the method of accounting—no, I would not include it.

Q. As shown on page 287, you assume that there will be a complete amortization in twelve years. Where did you get your twelve years?

A. That was merely an estimate on my part, Mr. Fitzhugh.

Q. In order for that to be a correct assumption, you have to assume that the average life of these structures is twelve years, do you not?

A. I assume that total life would be twelve years.

Q. Isn't it true, Mr. Connor, that a substantial part of the Production System Structures of the Company as of this date is considerably over twelve years old?

A. I could not tell you; I don't think so.

Q. Did you have this same sort of a set-up in testifying before the Railroad Commission?

A. I don't recall; I imagine that it was somewhat similar.

Q. Your exhibit shows that you used 5 per cent as an annuity basis. Isn't it a fact that you used 7 per cent for your annuity basis before the Railroad Commission?

A. I think that that is correct.

Q. Why was the change made?

A. Because 5 per cent is correct and 7 per cent is wrong.

Q. Well, how did you find out it was right—what was the consideration that made you make the change or decide [fol. 2113] that one was right and that the other was wrong?

A. Because it is absurd on the face of it to assume that any annuity could be accrued and proper security surround an annuity wherein the interest rate was 7 per cent. My use of the figure in the Fort Worth hearing—I would have to construe it as a gesture of generosity but not the result of my judgment.

Q. Now, Mr. Connor, if you have a fund in money at this time and you want to use up that fund and distribute it by

years so that at the end of, say, a ten year period the entire fund would be used up, it can be calculated mathematically, can it not, the amounts that could be given away year by year to finally dissipate the entire fund, taking into consideration all of the interest that the fund might draw in the meantime?

A. You mean to go to zero at a certain number of years?

Q. Yes.

A. Oh, yes.

Q. Now, those payments made by years to accomplish a result of that sort are properly called annuities, aren't they?

A. What I thought you had in mind was the disappearing balances where you get down to zero at the end?

Q. That is it exactly. Where you use payments for years to retire at the end of a certain time the balance which you had to begin with, those payments along the line are called annuities?

A. Oh, yes. I misunderstood what you meant.

[fol. 2114] Q. Suppose you had a thousand dollars and you wanted to arrange so that it will be paid to you in equal installments until so that at the end of ten years there will be no fund on hand; that could be worked out to get those installments mathematical and the installments would be called annuities?

A. Yes, but they would not be worth a thousand dollars in the end.

Q. I am just talking about that definition of the term. Those amounts that you would get by years, would be called annuities; isn't that correct?

A. That might be correct. I am not exactly clear what you are talking about.

Q. Suppose, on the other hand, Mr. Connor, that you had no money at this time and you want to find out what amount you would have to lay aside until so as to give you a thousand dollars at the end of ten years. Now, that is a process which you properly call amortization?

A. Well, I think it is usually termed amortization.

[fol. 2115] Q. Amortization is the providing of some future time for the retirement to take place in, isn't it?

A. That is correct.

Q. And building up a fund sufficient to take care of it?

A. That is correct.

Q. Now, as you have used the term "annuity" in connection with amortization in twelve years on a five per

cent annuity basis of 6.30 per cent per annum, as found on page 287 of Exhibit 42,—haven't you incorrectly used that term?

A. I may have. The purpose of it is clear, however.

Q. At any rate, what you mean there is that you are building up a fund that will be sufficient at a future time—twelve years to be exact—to take care of retirement one hundred per cent.

A. That is correct, upon the assumption that the annual accumulations will be compounded at the rate of five per cent, and the interest so accumulated will be added to the principal sum each year.

Q. When you reduced in this exhibit what you had formerly taken before the Railroad Commission—a five per cent annuity basis, I mean a seven per cent annuity basis to the present five per cent annuity basis, you increased the per annum per cent quite materially, did you not?

[fol. 2116] A. Quite naturally the per annum per cent increases as the interest rate accumulated on the annual accrual decreases, I think if you will recall, Mr. Fitzhugh, my testimony before the Commission in the hearing, I stated that I didn't believe that an annuity should be calculated upon a rate of interest as high as seven per cent, but the amortization accrual—

Q. At any rate, the change gets a figure for depletion in this exhibit which is considerably higher than that which you found before the Commission?

A. I don't think that the amount would be substantial, but it would certainly increase it—yes, you are correct.

Q. Wouldn't almost double the amount?

A. It might, depending upon the period of years over which the amortization accrual would extend.

Q. Now, your Company owes the Lone Star Gas Corporation quite a substantial sum, which at the present time is drawing six per cent interest,—isn't that correct?

A. That is correct.

Q. As long as you can make payments on the principal to retire that debt, you will always have a safe place to put your investments, will you not, and draw at least six per cent?

[fol. 2117] A. Absolutely not.

Q. Why?

A. Because the minute you retire a part of your current debt you are investing that money with which you retire

that current debt right back in the natural gas business.

Q. That is all right; isn't that a safe business?

A. It isn't a safe business in which to create an amortization accrual; absolutely not. I think it would be the last one a life insurance company or anybody would permit you to put funds in for that purpose.

Q. So you have to assume in your calculations that the funds or the amounts coming in to build up the fund will be invested in something else besides your own company, your own securities, or your own financial obligations?

A. Absolutely.

Q. So you resort to something like savings bank deposits or other securities to make your investments in for this fund?

A. Absolutely.

Q. And that is what accounts for the low rate of interest that you have changed to, is it?

A. Yes; I don't think the rate of interest used here [fol. 2118] is low enough.

Q. Now, you estimate, do you not, that the application of the 6.3 per cent per annum for amortization in twelve years on a five per cent annuity basis, as you say on page 287, will retire one hundred per cent the investment in this class of property in twelve years?

A. That is correct.

Q. Now, that being true, Mr. Connor, why do you add in the one per cent for Decline in per cent of New Condition?

A. For exactly the same reason I explained in connection with gas well construction and equipment.

Q. Well, if you are going to get back the whole amount of your investment at the time when the property represented by the investment goes out of service, why would you have to include in here any calculation—

A. Mr. Freese (Fitzhugh), I can not add anything in connection with this item to the explanation I made in regard to the same identical thing in connection with gas well construction and equipment.

Q. Well, you don't mean that the addition of one per cent for the Decline in per cent of New Condition, as shown on page 287 is here added because at some place else in the [fol. 2119] appraisal the same amount is deducted, do you?

A. No, I don't; but I do put it in there in lieu of increasing the one per cent on other items of property.

Q. When you get through the whole appraisal, Mr. Connor, using this same sort of method you will have arranged to amortize the whole investment as represented by the Company's property, at some future time, will you not?

A. Yes; but I do that by a distinct and separate process, which is clearly set out and has no relation whatever to the matters which you are discussing.

Q. Well, you mean you arrange to amortize the items separately, but when you get through your whole appraisal you will have retired the whole investment one hundred per cent at some date?

A. Absolutely; I hope so.

Q. Do you discuss anywhere in your exhibit, Mr. Connor, the way the appraisal works out, so far as the adding in of this one per cent for Decline in per cent of New Condition is concerned?

A. How the appraisal works out, Mr. Fitzhugh?

Q. Yes, sir, or how your allowances for annual depreciation work out.

[fol. 2120] A. You are referring to my exhibit, and not the appraisal—Exhibit 42?

Q. Yes, sir.

A. I think that is set out, Mr. Fitzhugh, both in Exhibits 41 and 42. The 41 exhibit has two pages in it which are, for all practical purposes, taken verbatim from the latter part of Exhibit 42. I show in connection with the allowance for Decline in per cent of New Condition that I deduct the amount accrued for that by the application to the various property accounts, together with an allowance of fifteen per cent for salvage value from such items as I estimate will ultimately be amortized; but even before I reach that conclusion I make a substantial reduction from the total property account for items of property which I think have been fully provided for in the appraisal—in the estimate itself. For instance, I show on page 3 and page 4 of Exhibit 41, that of the total reproduction cost I estimate that a capital sum of \$15,421,714.31, representing the reproduction cost of certain specific items included in the appraisal have already been provided for—the complete retirement of those items has already been provided for in the accruals which I set up. Then I also pick out certain items on which I think there would be no loss on account of Lone [fol. 2121] Star Gas Company going out of business as a natural gas company, such as a portion of the Measuring

Station Land and Improvements. However, I doubt if they would make any recovery on those items. And the Main Line Compressor Stations—the land and real estate in connection with those; the General Office Building Land, and Other General Land, and items of that sort; I have assumed that at the time the Company went out of business that they would recover the reproduction cost, in part at least, of those items. In Column “D” I set out the Decline in per cent of New Condition, which I have provided for as heretofore explained. That, in turn, is deducted from the amount which I think would be subject to amortization, because of its already having been provided for, and there certainly wouldn’t be any necessity of providing for it again; and I have also assumed that there would be a net salvage of fifteen per cent in the end of the life of this property—and when I say “end of the life of this property” I mean only this property which was in existence as of January 1, 1934; and those two pages cover very carefully and very fully how I treat the Decline in per cent of New Condition, and there is a complete and full explanation [fol. 2122] of it in the text of the report itself, beginning at page 209 and extending through page 305.

Q. You do know, do you not, Mr. Connor, the actual replacements of transmission line pipe for 1933?

A. No, sir.

Q. Do you for 1932?

A. Yes.

Q. How much?

A. I know what they were for six months during the year 1933, and it might be that some pipe had been retired prior to the date at which I made my determination as of June 1st—July 1st, 1933.

Q. You know the amount for 1932, do you not?

A. Yes, sir.

Q. How much was it?

A. What class of property do you refer to?

Q. Transmission line equipment.

A. Well, now, Mr. Fitzhugh, if you don’t object, I would prefer to read that for both transmission line and tap line, because they have been consolidated.

Q. Yes, sir.

A. 27,374 feet of 3-inch equivalent pipe.

Q. That covers both transmission lines and tap lines?

A. That is correct.

[fol. 2123] Q. And that includes the replacements, retirements, and abandonments, does it?

A. It includes everything of that nature, yes, sir.

Q. Now, when you testified before the Railroad Commission; in your Exhibit 18 on the chart shown at page 45, the curve used by you on that page shows that for 1932 the main line replacements and abandonments would be 420,000 instead of the 27,374—

A. That is no doubt correct.

Q. —actually incurred?

A. That is no doubt correct.

Q. Now, what are your figures for the six months in 1933?

A. 211,853 feet for the six months period.

Q. Your prediction when testifying before the Railroad Commission for that period used was for the year, 540,000, was it not?

A. I don't recall; you are no doubt correct.

Mr. Griffith: The figure 211,000 which you gave was for the first six months of the years?

The Witness: That is correct.

Q. Well, the first six months period usually catches most of the replacements, does it not?

A. I wouldn't say so.

[fol. 2124] A. Approximately; that would be a fair assumption.

Q. Could you find out by the time we meet again Monday, Mr. Connor, the replacements for the full year 1933?

A. I doubt if I could, Mr. Fitzhugh; I will try to do so.

* * * * *

[fol. 2125] Q. Mr. Connor, at the last session, in testifying on your depletion rate or the annual rate for depletion on the developed leaseholds and on the annual depreciation amount on gas wells, you testified that you had estimated that the withdrawals from the gas reserves would be about twenty million feet—twenty million thousand cubic feet, except the five million actually being withdrawn in 1923—1933, rather.

A. I don't know what the actual withdrawals were for the year 1933.

Q. Well, they approximate five billion.

A. Between five and six billion, I imagine.

[fol. 2126] Q. Yes, sir; and you testified also that you used a price per thousand cubic feet, or a depletion allow-

ance per thousand cubic feet of \$.0023 per thousand in getting your depleted leaseholds depletion?

A. No, I think you have the wrong figure on that, Mr. Fitzhugh, I think that the depletion unit used, Mr. Fitzhugh, was the \$.007—

Q. \$.0073?

A. I think so; yes, that is correct.

Q. All right, sir; and that was worked out from Mr. Hulcy's exhibit?

A. That is correct.

Q. Now, then, did you use these two—this depletion allowance per thousand cubic feet or the assumption of the twenty billion cubic feet withdrawals per year, on any other class of property than these two?

A. No, they were the only ones to which it applied.

Q. Just before we quit Saturday you were asked, Mr. Connor, if you could give the total amount of 3-inch equivalent—that is, the total feet of 3-inch equivalent mortalities for main line replacements and abandonments for the full year 1933, and I believe you said you would give us that this morning, if possible.

A. I said I would give it to you as soon as possible.

[fol. 2127] Q. You don't have that yet?

A. Why, no, Mr. Fitzhugh; that is quite a task, and when I got back to Dallas yesterday there was nobody—the records of all the departments were under lock and key, and there was nobody in the building; so it was impossible to get that information for you. That information will be secured, and the work has been started this morning.

Q. You did give the amount for the six-months period—the first six months in 1933.

A. That is correct.

Q. Are you able to tell, Mr. Connor, the lines that that 211,853 feet of 3-inch equivalent covers?

A. I imagine I will be able to give you that, yes. (Witness consults data.) This is all expressed in terms of 3-inch diameter, Mr. Fitzhugh. Line C, 252 feet; Line K, 8682 feet—

A. Line K-C, 45 feet; Line L, 118,190 feet; Line O, 66,365 feet; Line 45, 1162 feet; Line J-2, 17,067.

Q. Mr. Connor, are the replacements that you have just given on Lines L and O on the 16-inch?

A. I think the replacements on Line L are 16-inch, and I think the replacements on Like K are 18-inch.

[fol. 2128] Q. I mean Line O.

A. I said 18-inch.

Q. Line O is 18-inch?

A. I think it is, yes, sir; I am pretty sure.

Q. And Line L is 16-inch?

A. Yes, sir; I think that is all that I can see from making a rather hasty check on those lines; there might be one or two small items that I have omitted.

Q. When you have a mile of 18-inch pipe and you want to reduce it to 3-inch equivalent, that would be six miles of 3-inch equivalent, would it not?

A. That is correct; everything in the report, both the length of pipe in service and the length of pipe replaced, is all reduced to the same equivalent, so that the relation is constant between the two.

Q. Now, the next classification of property after the production structures and equipment is rights of way. Now, in the handling of rights of way, Mr. Biddison, in the appraisal, left them in at 100 per cent condition, did he not?

A. That is correct.

Q. And they appear in the appraisal at full value—100 per cent, do they not?

A. That is correct.

Q. That value was estimated by Mr. Biddison at three times the actual cost, as per the books, was it not?

[fol. 2129] A. I don't know whether it was or not.

Q. Now, then, you come along in your calculations and estimate that there should be a depreciation allowance of 8.6 per cent of the value of rights of way on the gathering system property, don't you?

A. Yes; in the manner in which I made the calculation that is necessary in order to correctly reflect the calculations set out in my exhibit and to prove for the necessary money.

Q. Well, now, if Mr. Biddison regards the rights of way that the Company now owns, regardless of how long the Company has owned them, or how long the rights of way will probably be in existence, at 100 per cent, why do you think, Mr. Connor, that there would be any depreciation of those rights of way?

A. Well, Mr. Fitzhugh, I will explain that as briefly as I can. In working out the annual rate which I determined for the main transmission system, and the explanation for

the main transmission system will apply with equal force to the other applications of the reserve accrual to rights of way,—I determined, as set out in Exhibit 42, the method whereby I made that determination, in Part 2. If reference is made to pages 151 and 152, it will be noted that the full statement is made, if it is assumed that the main lines [fol. 2130] and tap lines of Lone Star Gas Company in service as of January 1st, 1933, will remain in their original locations throughout their service life, the items included in a reproduction cost estimate of direct structural costs that would be unaffected by the factor of replacements, removals, and abandonments that would be unaffected by decline in per cent of new condition, and that would not be reincurred in piecemeal replacements; are as follows: first, value of lines owned in fee; second, rights of way costs, exclusive of construction damages; reproduction costs of clearing rights of way. I specifically set out that those items will not be met, or those expenses will not be met in the piecemeal replacement of a line which is assumed to remain in service in its original location. I determine the reproduction cost of those specific items as set out by Mr. P. McDonald Biddison in Exhibit 28. I, then, determine the ratio that those items bear to the total cost of the line, and I find that the ratio is approximately 4 per cent, the actual calculation being 3.78 per cent; in other words, 96 per cent of the total line, including the costs of right of way, expressed in dollars, the reproduction cost basis is the cost of the property which will be subject to replacements, removals, and abandonments, and so forth. I get my annual rate of reserve accrual independent of that factor. Had I used the rate which I determined independent of that factor without modification, it then should have been applied only to that portion of the account main transmission system represented by those items of property which would have to be replaced; but I didn't do that. To that factor I applied .96, thereby reducing the factor which I applied, or the annual rate which I applied by that factor, as is clearly shown on page 168, Exhibit 42, Table 4-A, wherein all items are reduced by the application of the factor, .96, except in the case of Column C, which is the removal factor, which is, multiplied by—which is the removal accrual, which is multiplied by the factor .70; in other words, the result is just exactly the same, Mr. Fitzhugh, as

if I had applied the entire reserve accrual which I estimate is applicable to the specific property items, to the property items, and excluded the rights of way and other items, or to have reduced the accrual by multiplying it by .96 and then applying it to the total property account.

[fol. 2132] Q. Now, that may explain to your satisfaction, Mr. Connor, how you found this figure, but it doesn't to mine. The per cent that you actually used was 8.6 per cent of the total value as a depletion or depreciation charge?

A. That is correct.

Q. Now, this Table 4-A that you refer to, on page 168 of your Exhibit 42, does not show how you derived that, does it?

A. No, I don't think the table does, but the text does.

[fol. 2133] Q. Now, to go back to the question I originally put to you, Mr. Connor. Bearing in mind the way Mr. Bid-dison has made his evaluation, and bearing in mind that in that evaluation he has included the gathering system rights of way at 100 per cent, with no depreciation whatsoever, don't you think it is improper for you to consider that the rates ought to refund to the Company in the amount of the value of those rights of way as a depreciation charge annually?

A. Absolutely not, as I have tried to explain, and as I will try to explain to you again if you wish.

Q. Your answer is good enough if it suits you.

A. Let's assume the original cost of the property to be \$1000.00, and that in that \$1000.00 there was \$100.00 not subject to depreciation. That would mean there was 90 per cent of that property subject to replacement, removal, and abandonment. Now, suppose I determined that for the part subject to replacement, removal and abandonment, the rate of depreciation should be five per cent. Five times ninety is 450—that is, applying five per cent to ninety per cent of \$1000.00 and you have \$450.00. Now, let's assume that, instead of doing that, you reduce the 5 per cent to 4½ per cent, and apply it to the whole \$1000.00, instead of the \$900.00, and you would still get \$450.00.

Q. Suppose you have a \$100.00 right of way, and that is a fair value of the Company's property, upon which it gets a fair return, and assume that a six per cent return should [fol. 2134] be the final determination; you would earn six

dollars a year on that by including that 100 per cent property value in the total value of the Company's property?

A. That is correct.

Q. All right; Now, your proposition is that in spite of the fact you are going to get a full return on the 100 per cent property value you ought to also have some depreciation charge, in spite of the fact that in the rate base it is 100 per cent?

A. No.

Q. Now, suppose that your 8.6 per cent is applied to that \$100 piece of right of way that I just referred to; in addition to the six dollars it would earn as rate of return, it would also get \$8.60 as an annual depreciation charge, wouldn't it?

A. That is true, Mr. Fitzhugh; but it must be clear in view of my explanation that instead of multiplying the much larger proportion of the property account by some higher annual rate, I have reduced that annual rate which applies to the much higher portion of the property by the proportionate amount represented by the non-depreciable property, and the answer would be just exactly the same as if I had put zero opposite the right of way and increased the annual rate of reserve accrual on the other parts of the property, just as if I applied $4\frac{1}{2}$ per cent to a hundred dollars on the one hand, and 0 per cent to \$10 and 5 per cent to \$90.

[fol. 2135] Q. To carry it back to the \$100 illustration, you mean you would have come out the same in the end if you had regarded the rights of way as worth 0 instead of using a 14.6 annual depreciation charge?

A. No; because the proportionate part that rights of way bear to the total is so small.

Q. I am talking about just as applied to rights of way.

A. I am frank to say I don't quite understand your question, Mr. Fitzhugh.

Q. If I understand you, it is this, that you used the 8.6 per cent value of rights of way in lieu of some higher figure that you might have used, because of the particular treatment you have given it?

A. No; had I used a slightly higher per cent on the rest of *to* property there would have been no reserve accrual applied to the costs of rights of way. It was just a method

of treating it and the manner it was set out was largely due to the sequence of the work in the report that was prepared. It would have been a simple manner to handle it to have left the rights of way out altogether and applied a slightly higher per cent to the other parts of the property.

Q. You would have come out at the same place if you had left out of consideration property values entirely, forgetting about letting the Company earn a per cent of return on its property, and finding nothing but a depreciation charge, if you had made the depreciation charge high enough, at 14.6 per cent?

A. If you had been disposed to proceed in that fashion, I suppose so.

[fol. 2136] Q. The next classification is Measuring Station Structures. To Measuring Station Structures you applied 10.5 per cent, did you not?

A. Yes, sir; that is correct.

Q. Now, that shows up on page 287, of your Exhibit 42, does it not?

A. Yes.

Q. You also show this same per cent on the Field Line Measuring Station Structures, did you not?

A. Yes; that is correct.

Q. And found the same way. Now, in finding this 10.5 per cent, as shown on page 287, you included for Current Replacements and Paint 2.0 per cent per annum?

A. That is correct.

Q. How did you find that two per cent?

A. That is an amount, Mr. Fitzhugh, —

Q. Is it based on any factual data of any sort?

A. Not particularly, no, other than the studies I made on current repairs to gas farm equipment and main transmission line equipment.

Q. Did the Company actually charge on its book to the depreciation reserve account the current replacements and Paint on Field Measuring Station Structures?

A. I am informed and have reason to believe by reason [fol. 2137] of the personal study I have made of the vouchers of the Company that the most minute charges are made to the reserve account covering the items you mention.

Q. Can you refer us to any item that appears on the books of the Company for 1931, 1932, and 1933 that would show a charge for current replacements and paint on these structures that was made to the depreciation reserve?

A. I don't know, Mr. Fitzhugh, that I can get the exact structures to which you refer; but the policy of the Company will be clearly indicated by a number of items to which I can call your attention.

Q. There are hundreds of these field measuring station structures, aren't there?

A. Yes, sir; just like there are of city gate measuring station structures.

Q. And this two per cent as applied to all these measuring stations is quite a sizable item, isn't it?

A. Comparatively speaking, it is not.

Q. At any rate, you ought to be pretty certain as to how the thing is being handled on the books before you put in two per cent per annum for depreciation in your calculation?

A. I am pretty certain.

Q. Well, just read out, if you will, any replacements and painting done on these particular structures.

A. I said, Mr. Fitzhugh, in answering your question, that [fol. 2138] I didn't believe I had anything for this classification of property. I have detailed analyses of charges to the reserve account for almost identical property, which indicates absolutely the policy of the Company with reference to making charges to the reserve account.

Q. But on these particular structures you don't have anything?

A. No; I don't think it would be necessary to demonstrate to my own satisfaction what the policy of the company was with reference to charging such replacements to the reserve account, when I found in the analyses that identical structures were being handled in that way.

Q. In the Railroad Commission's order, on page 57, under Field Measuring Station Structures, this statement occurs: "Current Replacements on Field Measuring Station Structures are charged to Operating Expenses by the Company. The year 1931 was no exception in this particular." Do you take issue with that statement?

A. No; I would not take issue with that statement, except to state that in examining the records of the Company with reference to similar structures I found that minute replacements, sometimes as small as 16 cents were charged specifically to the reserve account. Now, the Company may make an exception with that particular class of property, and if they do, and Mr. Hulcy's exhibit so reflects Operating Expenses as applicable covering the items

to which you refer, then my report should be amended to that extent, but I don't believe that what you say is actually in accord with the policy of the Company. Mr. Huley is here and he is more familiar with that than I am.

Q. This statement made with reference to 1931, as to Field Measuring Station Structure Replacements being charged to Operating Expenses is also true as to 1932 and 1933, and thus far in 1934, is it not?

A. What statement?

Q. That Current Replacements on Field Measuring Station Structures are charged to Operating Expenses by the Company?

A. I don't know.

Q. Now, then, we are talking about Field Measuring Station Structures and no other structures, Mr. Connor.

A. That is correct.

Q. Now, why do you feel justified in deciding how to handle the Current Replacements and the Painting on these structures by a consideration of some other structures?

A. Because the other structures are almost identical in all respects with these particular structures.

Q. What are the structures that—what painting and what current replacements on what structures is it you are now talking about?

[fol. 2140] A. We discussed last Saturday the current replacements and painting of the structures on the gas farms, which certainly have been charged.

Q. You are talking about Other Production System Structures now?

A. That is correct. Now, in the case of the Measuring Station Structures—

Q. Now, Mr. Connor,—

A. Wait a minute. On all Compressor Station Structures, similar repairs and replacements have been charged to the reserve. Similar charges have been made to the city gate measuring stations; and that is as far as my investigation relative to these particular property items went.

Q. Now, on page 56 of the Railroad Commission's order, under Other Production System Structures, the Railroad Commission adopted the two per cent that you have testified was the proper allowance for those structures, did it not?

A. I assume that it did.

Q. The exact words being: "We are adopting an annual rate for current replacements of 2.0% as suggested by Mr. Connor (Exhibit 18, page 113)." Now, the Railroad Commission did allow the two per cent per annum on Other Production System Structures; but cut it out on Field Measuring Station Structures and Field Measuring Station Equipment, because those things had always been taken care of as Maintenance; isn't that right?

[fol. 2141] A. There is no argument between you and me if that is relative to the inclusion of an allowance for a reserve accrual which the Company has currently provided as a direct operating charge.

Q. Now, there are current replacements and painting on these Field Measuring Station Structures going on all the time, isn't there?

A. Oh, yes.

Q. And that is true in 1932 and 1933 and this year?

A. That is correct.

Q. Yet you are not able to refer on your charges to the Depreciation Reserve Account to a single instance where a segregation is made and charged as two per cent for Current Replacements and Paint?

A. That is correct, in connection with this specific item of property.

Q. The same thing is true of the Field Measuring Station Equipment, is it not?

A. That is correct.

Q. And the Gathering System Measuring Station Equipment?

A. That is correct.

Q. Now, another part of this 10.5 annual accrual rate, which you have applied to Gathering System Measuring Station Structures and Gathering System Measuring Station Equipment, and Field Measuring Station Structures and Field Measuring Station Equipment, you have included [fol. 2142] for costs of Removals and Abandonment 7.5 per cent per annum?

A. That is correct.

Q. On page 287, in discussing how you arrived at this 7.5 per cent for the cost of removal and abandonment, this sentence occurs: "This analysis indicates a loss of 150 per cent of the reproduction cost of the structures during a service life of twenty years or an annual reserve accrual of 7.5 per cent to provide for the loss on removals and

ultimate abandonment". Previously in the text you have stated that the average life of gas wells is approximately six years. Is this 7.5 per cent obtained by dividing the six years, the life of gas wells, into the twenty years, the approximate life of the structures?

A. The whole estimate, Mr. Fitzhugh, is an approximate estimate, of course. I merely assumed that there would be a period of removal of those Measuring Stations from one location to another on which there would be a loss incurred on each removal.

Q. Well, where did you get the 150 per cent?

A. Well, there would be about 25 per cent loss, or 75 per cent loss on three removals, or two removals—there would be two removals approximately before the final abandonment of the structure at its final location, which would account for fifty per cent, and then approximately 100 per cent of the total cost would have to be taken care of at the final abandonment, which would give you 150 per cent, taking into account intermediate loss on removal plus final loss on abandonment.

Q. Now, when a well runs out and the Measuring Station [fol. 2143] Structure that is on the well line is no longer of any use on that particular well, they take up the line and use the pipe in some other location and take up the little structure and put it on a wagon and move it to the new line, don't they?

A. That is correct.

Q. Now, all the cost of making that move, changing the position of that Measuring Station Structure, is charged as operating expenses, is it not, or as maintenance?

A. If it is, then it is improper, as I stated before in connection with these specific items of property, to include any reserve accrual allowance for it. If my understanding is wrong, then this item should be eliminated.

Q. All right. But in the sheets you have before you which indicates charges to depreciation reserve you are unable to find any of these particular items, are you?

A. No. I have only analyzed the charges to reserve on certain specific items of property, Compressor Station, Main Line Stations, gas farms.

Q. Now, you used the same 150 per cent loss of the reproduction cost on the field line Measuring Station Equipment?

A. That is correct.

Q. And on the Gathering System Line Equipment, did you not?

A. Gathering System Line Equipment? No.

Q. No, that is right. Now, that equipment is mostly composed of meters and fittings, isn't it?

A. That is right.

Q. How would there be any 150 per cent loss on that sort of property simply caused by removal?

[fol. 2144] A. There probably would not be so much loss in connection with the property itself, but in reconditioning and handling that Measuring Station Equipment, taking it out of the line and putting it in service at another location, would be at least 25 per cent of the material, assuming that no material was lost.

Q. Well, you didn't have any factual basis for that—you just made a guess?

A. No. I had information; Mr. Steinberger and Mr. Bidison had made studies of what it cost to install that equipment.

Q. Well, have you made any analysis or study of what it costs to remove meters and equipment and install it at another place?

A. No, but the actual labor in taking down those meters and devices and cleaning them up, together with such loss of fittings as takes place, would be more than 25 per cent of the value of the fittings.

Q. Well, your estimate that it is 150 per cent of the reproduction cost ought to be reduced to about 50 per cent, should it not?

A. No.

Q. Well, at any rate, that estimate is just a guess?

A. No.

Q. Can you pick out any particular installation anywhere on the company's system for the year- 1932, 1933 or 1934 and state how much it cost to move it from the old situation to the new site?

[fol. 2145] A. No, I can't.

Q. And you don't know how those charges were taken care of on the company's books?

A. No. I think I have testified to that before, Mr. Fitzhugh, that I did not.

Q. On the Measuring Station Line Equipment and on the Field Line Equipment you used 8.6 per cent?

A. That is correct—a consolidated figure for both classes of property.

Q. And this per cent is applied to property that comes pretty close to being five million dollars, doesn't it?

A. That is correct.

Q. Whereabouts in your exhibit do you show the curve that you had to find this per cent or the derivation of that per cent?

A. Two of them. One is shown on page 57 and the other one is shown on page 68.

Q. Now, on page 68, where you have plotted the curve for the replacements, removals and abandonments of that steel pipe of field and well lines, where did you get your basic data for that?

A. By a study of the records of Lone Star Gas Company from 1909 to mid-year 1933.

Q. On your line A-B on this sheet, does the basic data for the plotting of that line show up anywhere in your exhibit?

A. I think I have a very complete and full explanation, Mr. Fitzhugh, ever to the most minute details, as to how [fol. 2146] that curve was developed. Now, I will have to go through the exhibit to see if I can point it out to you exactly, if you will give me just a minute or two.

Q. Well, without going into some long, complicated harangue on that, didn't you just find this curve by taking your thirty-three year life of pipe and drawing a line from the 100 per cent mark on that per cent axis to the thirty-three year point on your year axis?

A. Absolutely not, Mr. Fitzhugh.

Q. Well, it is a most unusual thing to see a straight line for the actual mortalities, is it not?

A. Not with reference to mortalities due to some particular thing which is not as variable as comes in the corrosion of pipe.

Q. Well, this has nothing to do with corrosion, but deals only with removals and abandonment?

A. That is correct.

Q. And this curve, if correct, shows an absolutely uniform rate of removals and abandonments, doesn't it?

A. No. It does not mean, Mr. Fitzhugh, at all that the actual experience of the company in the matter of these things would be absolutely uniform from year to year—

far from it; but it means that the manner in which a calculation can be made to anticipate and smooth out those irregularities, which will occur from year to year, in my opinion should be determined as I have shown it on page 68.

Q. Well, tell just as simply as you can, Mr. Connor, how you did get up your curve.

[fol. 2147] A. Well, there were a certain number of replacements, removals and abandonments which I had ascertained by a study of the records of the company, which have taken place up to and including mid-year 1933, in the field lines and well lines of Lone Star Gas Company. Now, the manner in which I made that determination was as follows: From the total replacements, removals and abandonments from all causes I made a calculation setting out my estimate of what per cent of those replacements, removals and abandonments had been caused primarily by reason of the condition of the pipe. That determination having been made from the study of the main lines and tap lines, wherein it was possible to determine more accurately just why the pipe had been removed, I deducted that estimate of these replacements, removals and abandonments which had been caused by the condition of the pipe from the total removals, replacements and abandonments which had taken place in the field lines and well lines of the company.

Mr. Griffith: From all causes?

A. From all causes, leaving me what I have estimated to be replacements, removals and abandonments which had been caused primarily by changed operating conditions or public employment, and in this case almost wholly by reason of changed operating conditions. I then determined the weighted age of those lines, including such lines as I could identify, and I was able to identify the age of practically all the lines. Having the weighted age of those lines and the years they had been in service, I divided the total rate of replacement of the total replacements by the weighted age and determined what the rate of replacement was on pipe in the particular service which had a weighted age indicated by the age of the individual property unit. I then devised a curve which, giving effect to the replacements, removals and abandonments, would pass through the indicated percentage point at the point indicated by the actual weighted age of the pipe. Curve C-D shown on page 68 is such a curve, and the rate of re-

placements shown is almost identical with the actual rate of replacements, removals and abandonments which has taken place in the field lines and well lines of Lone Star Gas Company.

Q. What was the weighted age that you decided these lines had?

A. 6.32 years.

Q. That means that the weighted age in any one location was 6.32 years. Is that right?

A. No; the weighted age, taking all the pipe into consideration, including the first pipe ever laid for that purpose.

Q. Well, that applies only to field and well lines, doesn't it?

A. That is correct.

Q. Well, you intend to show by that, Mr. Connor, that the average life of the field and well lines is 6.32 years?

A. Oh, no. The average life—let's understand each other, because the word "average" life is something that is subject to two interpretations. That means average life [fol. 2149] to date in so far as the age of the unit is concerned and how long it has been in service, as distinguished from what might be considered average life determined upon either failure or replacement.

Q. What is your estimated total life of the field and well lines in any one location?

A. The calculations so far as the curve is concerned would indicate a total life of thirty-three years, but in so far as the rates of replacement are concerned, of pipe, that indicated average life of pipe has nothing in the world to do with the actual rates of replacement.

Q. Well, now, as shown by your curve, the average service years in any one location would be half your total life; that would be thirty-three and a third, or sixteen and a fraction years, would it not?

A. That would be taken from the curve A-B, but, as I said before and I wish to repeat, that the average life of a group of property units, such as steel pipe, has no relation whatever to the probable or possible rate of replacement of that pipe. Had I differentiated in this exhibit between field lines and well lines, the indicated life of the well lines would have been much less than this curve indicates.

[fol. 2150] Q. Now, you say this graph C. D. Prime, and A. B. as derived from C. D. Prime, is computed from actual data?

A. I said the direction of the curve was determined by an interpretation of actual data.

Q. But in order to get these curves plotted, you had to make several estimates and make several assumptions of your own along the line, didn't you?

A. I think just exactly what I did, Mr. Fitzhugh, is set out in detail in the text of the report.

Q. Well, just as you explained a minute ago, you had to make several estimates, didn't you, in order to get your basic figures to plot this curve C. D. Prime, and for that matter, A. B.?

A. No, I would not call them estimates.

Q. Well, you had to make some assumptions of your own, didn't you Mr. Connor?

A. I had to make certain calculations.

Q. Well, in making the calculations, you had to assume certain matters that were not matters actually known. Isn't that true?

A. Not with reference to what had actually happened, no.

Q. Were you—where is the page that gives the text on this matter?

A. I had it a minute ago, Mr. Fitzhugh, but I let it get away from me. I will have it for you in just a second. I think you will find that explanation set out, Mr. Fitzhugh, on pages 123—and all of the calculations which are made in connection with the determination—through page 135. From page 123 to page 135.

[fol. 2151] Q. Now, on page 136 where you give the figures on your historic mortalities for the field and well lines shown in your outline as "B" mortalities due to changed operating conditions, you used the 1,715,688 feet of three inch equivalent pipe in arriving at your curve, did you not?

A. Yes. I think that is correct; that is shown on page 123.

Mr. Griffith: Of Exhibit 42?

A. Of Exhibit 42.

Q. Now, in using this curve as a basis, you finally wind up with your 8.6 per cent for your annual rate of reserve accrual?

A. Yes.

Q. How did you use that curve to get to your percentage?

A. The future annual rates were predicated upon, or were projected by a series of calculations beyond the year 1933, as in the case of those curves. I am referring now specifically to the curve designated mortality curve No. 3. Is that the one to which you refer, Mr. Fitzhugh?

Q. Well, you took this curve and your basic mortality curve and from the two worked out your percentage, didn't you?

A. For the future years, beginning with 1934.

Q. Now, where do you show the details on that?

A. The calculations for field lines and well lines?

Q. Yes, where you find the reserve accrual rate of 8.6 per cent for your gathering system line equipment, and your field line, line equipment.

A. I think that begins on page 171, Mr. Fitzhugh, of Exhibit 42.

[fol. 2152] Q. Is the calculation on page 186 a part of the application you made of this 8.6 per cent of the annual reserve accrual rate?

A. Yes, that is merely a check on the application of it; that is correct, Mr. Fitzhugh.

Q. Have you anywhere, in finding this per cent, taken into consideration the fact that the company has built up a reserve in the past for pipe, since the time the pipe was installed, which would be available for retirements and replacements?

A. I have not.

Q. In other words, the application of this 8.6 per cent per annum to the total value of this particular sort of equipment would be sufficient to make all retirements and replacements that occur in the future, as the pipe wears out, if they didn't have a cent of reserve already built up?

A. That is my estimate of what would be required in the future from January 1, 1933, to maintain the present property of Lone Star Gas Company throughout its service life.

Q. And your rate assumes, does it not, Mr. Connor, that there is a zero amount on hand at the present time for future depreciation requirements on this class of property?

A. I made no assumption, whatever, Mr. Fitzhugh, as to what is on hand at this time. I simply made a determination of what would be required from January 1, 1934,

into the future, as is clearly disclosed by the exhibit itself.

Q. Well, the application of this rate would be sufficient to make all future retirements and replacements if a zero [fol. 2153] amount was on hand at this time; isn't that true?

A. That is correct.

Q. So it is the same as assuming, isn't it, that there is absolutely not a cent on hand, available to the company now, for making replacements and retirements and repairs to this class of property?

A. That is correct. I have made my estimate upon the basis, or without reference to whether or not Lone Star Gas Company had set up a credit balance, or whether they had not earned enough to even pay operating expenses. The calculations I made would be just exactly the same in either event.

Q. A number of these lines have been in for quite a while, have they not?

A. Some of them have been in for quite a while, and some of them are comparatively new, Mr. Fitzhugh.

Q. And the wearing out of these lines has already taken place to some extent?

A. The physical wear?

Q. Yes.

A. That is true of all pipe in the ground, depending very largely upon the location of the pipe, as to what the extent of it is.

Q. And assuming the company has been making proper depreciation provision in the past, there now should exist a fund in some amount built up to take care of the wearing out of the property that has been in service for some years. Isn't that true?

A. There should of course be accrued a depreciation re-[fol. 2154] serve accrual. There should be a reserve set up, but the fact that there might be one or might not be one has not been taken into consideration by me in making this estimate. I have assumed that the moneys received in the past by the company were moneys that they received for the service that they rendered, and that the moneys they received in the past for their service rendered did not constitute contributions on the part of the consumers to any particular account of the company, whether it was to the capital account, the operating expenses of the company, or the depreciation reserve; and I felt in making this estimate

that the property that the company had acquired by the reinvestment of its funds secured from its service in the past could not be used to supplement any calculated reserve accruals which would not provide for the actual cost of current and future replacements, removals and abandonments and other charges to the reserve account.

Q. But Mr. Connor, if the company has been making property depreciation provision in the past, it now has on hand a right substantial credit reserve in the depreciation reserve account which is available at this time for making repairs and replacements as they become necessary; isn't that right?

A. If such a reserve has been accrued and set aside, it would be available, but you must also bear in mind, Mr. Fitzhugh, that there has been a decrement of a substantial amount in the present worth of the reproduction cost of the property of Lone Star Gas Company as set out by the [fol. 2155] examination and report of Mr. P. McDonald Biddison, and whether the reserve accrual in the past has been large enough or too small or too large, I gave no consideration to it whatsoever.

Q. And you gave no consideration whatsoever to the fact, did you Mr. Connor, that there is about a Fourteen Million Dollar accrual in the depreciation reserve of the company right now?

A. I did not.

Q. On page 63 of the Railroad Commission's opinion and order, this statement appears:

"Mr. Connor makes no allowance for the use of the several millions of dollars of reserve which would be built up for this item (main line pipe) during the next few years. Under Mr. Connor's set-up the current gas consumer would be paying the company rates sufficient to retire (or replace) pipe used up in the service of past consumers and not used in the service of the consumer currently paying rates. We are of the opinion that the cost of retiring (or replacing) an item of property should be spread evenly over the life of the item of property."

I will ask you, Mr. Connor, isn't it a fact that under your method wherein you disregard the credit balance in the depreciation reserve, and include amounts that are sufficient to take care of repairs and replacements in the

future in themselves, that you are now making the present gas consumers pay rates sufficient to retire or replace pipe used up in the service of the past consumers, and not used [fol. 2156] in the service of the consumers presently paying the rates?

A. Absolutely not.

Q. Are you of the opinion, Mr. Connor, that the cost of retiring or replacing an item of property should be spread evenly over the life of the item of property?

A. I believe, Mr. Fitzhugh, as is shown in this exhibit, that beginning January 1, 1933, as of the date of this inquiry or at least as of the date of this investigation that I made, that the rates for reserve accruals must be calculated independently of anything that has happened in the past except in so far as this history of the past will give you a proper basis upon which to make a determination of the rates of accrual in the future.

Q. Well now, some of this depreciation that you are taking care of in your rates, Mr. Connor, has already occurred, hasn't it?

A. Yes, and Mr. Biddison has taken care of that or has taken account of that fact in reducing the rate base, too.

Q. And some of the pipe has already worn out?

A. Yes, and the per cent condition put into this record by Mr. Biddison takes account of that very thing.

Q. Yes, but presumably your depreciation rates in the past have been sufficient to cover all the losses in value due to that wearing out—isn't that true?—and you now have that cash or its equivalent in the depreciation reserve of the company?

A. I trust that the company has done that, but if it had not and if its rates had been inadequate in the past, and [fol. 2157] if the company had suffered a loss every single day and every year from the date they first built this property, and if they didn't have a single penny of reserve, it wouldn't make a bit of difference in the basis of my determination or in the determination of a proper reserve here; and what you have indicated in your questions to me and from what you have read from the order and opinion of the Railroad Commission as to what I had done with reference to imposing upon the future consumers the cost of making future replacements of property and also paying for property theretofore used up, is absolutely not correct.

Q. Why isn't it correct, Mr. Connor? You disregard the fact that some of the property is already worn out, and you have already collected and put into your depreciation reserve an amount of money equivalent to the value of the property which has worn out. Now you disregard all of that and you compute a depreciation rate which, applied to this property, will be sufficient to take care of all wearing out, repairs and replacements when and as they occur in the future?

A. That is correct, but if you had interpreted clearly and correctly the very clear and definite manner in which I made those calculations, you would have found that if a property unit in service in the Lone Star Gas Company's system was 22 years old as of January 1, 1933, and the probable life of that unit of property was only going to be 24 years, the users who would come on or the consumers of gas as of January 1, 1933, would only be required to [fol. 2158] make such replacements as would occur in that property unit from January 1, 1933, to January 1, 1935, and there is not one calculation or not one assumption in this whole exhibit that can be construed as interpreting that I would impose on anybody coming on this system as of January 1, 1933, any burden in making retirements and replacements in that property up to January 1, 1933.

Q. All right now, take that very illustration, Mr. Connor, where you assume a pipe 23 years old, with a 24 year life as of the date of your appraisal. That means from January 1, 1933, that pipe will have one year of life remaining?

A. That is correct.

Q. In other words, one year after your appraisal, that pipe would be replaced 100 per cent, wouldn't it, and the 100 per cent value would be charged as a part of your depreciation allowance; isn't that correct?

A. Absolutely not, Mr. Fitzhugh.

Q. Well now, explain why that is not true?

A. Because the annual charges alone, the only replacement charges which would apply to the reserve accrual which I have made for the year 1934 would be that proportionate part of that unit of property which would be retired during that current year, and would have absolutely nothing to do with past wear. In other words, the calculations assume that the property has been already replaced by the prior consumers, up to the date of the

inquiry. It is simply a misinterpretation of the entire purport of the calculation.

[fol. 2159] Q. Well now, this piece of pipe we are talking about, Mr. Connor, has to be put into the system and paid for. How is the replacement of that particular piece of pipe taken care of? If your depreciation reserve doesn't bear the cost of that replacement 100 per cent, what does?

A. Mr. Fitzhugh, in making these calculations with reference to annual replacement rates—and that is what we are talking about—I have not assumed that Line B, for instance, is going to last thirty years, or that Line A will last forty years or fifty years, as the case may be. I am assuming that so far as these calculations are concerned, that that line will last indefinitely. The individual items of property which go to make up that line will have to be replaced and renewed at varying rates per annum. There will be no replacement of line A, but there will be merely a replacement of the integral units of property which go to make up Line A, and those replacement rates will vary with the passage of time, if the laws of probability prevail. It is exactly like the T. P. Railroad from Dallas to Fort Worth, built in 1872. The Line is probably in better condition today than it was in 1873, and it is more than 50 years old. I don't suppose there is a single piece of the original line laid in 1872 that can be found now on the right of way of the T. P. Railway, but the T. P. Railway between Dallas and Fort Worth is still a unit of property; and it is the same with these lines. But so far as applying to the year beginning as of the date of this report, I [fol. 2160] have simply determined those rates of replacement which would actually occur from that time forward. As to everything which had taken place from that time backward, I make no accumulation of those and include them in my future calculations. I do not think the exhibit could be construed to mean that, if anybody had made a very careful analysis of it.

Q. Now, Mr. Connor, will you please answer the question that I asked you?

A. You asked me if I had not applied to the future user the entire responsibility of retiring that line.

Q. No.

A. And you asked me to explain why, and I said I had not.

Q. I will ask my question over. I asked you in the case of

this 23 year pipe which would last one year after the date of your appraisal, and which was going to be replaced 100 per cent by a new piece of pipe, if the charge was not charged to depreciation reserve 100 per cent, then what is it charged to?

A. It is not calculated that way, Mr. Fitzhugh. If the last section of the original piece of that line is going to be replaced in the 24th year, that proportionate part only which would be replaced in the 24th year is included in this appraisal.

Q. Can you tell me in that particular instance what the charge to depreciation reserve would be?

A. No sir, because there is not a single case in here where a thing of that kind occurs: If you will refer to this series of calculations, and take for instance a very typical one. Take [fol. 2161] page 161, Mr. Fitzhugh; here we have a typical case of the very thing we have been talking about. In Column A, I show the main line pipe and the tap line pipe on the basis of the age at which that pipe was originally installed, and I applied successively from the year 1934 forward to each one of those installations of pipe the calculated replacement rate which would be applicable to that year of service, assuming that the pipe were to remain in service continuously, and those calculations are carried forward on pages 162 and 163. Now, as a matter of fact, it is shown that in the year 1934, the calculated replacement rate for the pipe laid in 1910 would be 7.3 per cent, yet in 1950 the calculated replacement rate for that same pipe would be 2.75 per cent.

Q. Do you assume, Mr. Connor, that the amount set aside in the past for depreciation requirements, have been enough to take care of the actual wearing out of the property in service?

A. I do not make any assumption at all in that particular, Mr. Fitzhugh.

Q. Well, is it not a fact, Mr. Connor, that the actual amount set aside in the past for depreciation requirements by the company have been sufficient to take care of the wearing out of the property in service?

A. I believe that they have.

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[fol. 2162] Q. Now, just to sum this thing up, Mr. Connor—in spite of the fact that the Company has been in the

past setting aside annual amounts which were sufficient to take care of the wearing out of property in service, and in spite of the fact that they now have on hand some \$14,000,-000.00 as credit balances in depreciation reserve, which presumably is pledged to the Company for making retirements and replacements, in your calculations as shown in your Exhibit 42, and in the finding of your rates for annual rate of reserve accruals, you have absolutely disregarded those facts?

A. If you mean I have disregarded those facts in so far as the calculation of the future rate of replacement is concerned, that is absolutely correct.

Q. Now, on page 186 of your Exhibit 42, and as shown in Column B of the tabulation appearing on that page, the actual replacements which you expect for the year 1934 on the Gathering System Line Equipment and Field Line [fol. 2163] Equipment will be 4.54 per cent of the value of that property.

A. That is correct.

Q. In spite of the fact that you anticipate that there will only be a little over 4.5 per cent of the value necessary to be replaced, you have assumed a replacement rate of 8.6 per cent, have you not?

A. No, sir, I have not assumed a replacement rate of 8.6 per cent.

Q. Well, applying your per cent—

A. I have assumed a replacement rate of 4.54 per cent.

Q. But you are asking for an amount to be set aside for the use of your Company, amounting to 8.6 per cent of the value of this property.

A. That is correct.

Q. Now, what happens to that difference between the 4.5 per cent actual replacements, and the 8.6 that you actually ask for to be included in your annual depreciation amount?

A. It would accrue as a credit balance for the current year.

Q. Well, now, if you are correct, Mr. Connor, that the amounts already collected and put in the depreciation reserve should not be resorted to in finding the rates—the annual accrual rates, and the amounts which will be necessary [fol. 2164] to take care of the future, what would be the sense of collecting any more than what the actual requirements are?

A. Because I have made a determination of what the future—the current and future costs of replacements, removals and abandonments would be, and I have set up a provision to uniformly take care of them.

Q. In other words, you start setting up now a reserve, do you not?

A. Well, as indicated by the calculation, Mr. Fitzhugh, the reserve, even if compounded upon a sinking fund basis, which is not the proper way to accrue a reserve or a credit balance, because it would be required and needed for the future decline in per cent of new condition, would never materially become a credit balance beyond the necessary provisions or the necessary requirements of the decline in person of condition factor. In other words, the credit balances which would accrue, even if compounded, which they should not be, will not ultimately be sufficient to provide for the decline in per cent of new condition which is going to take place in this property, and which I have deducted from the amount to be ultimately amortized.

Q. All right. Now, in 1934 you think that the actual [fol. 2165] retirements and replacements will be 4.5 per cent, plus; in 1935 you say it will be 4.759 per cent, and in gradually increasing amounts on through the years until you get up to about 1944, where you come to 8.044 per cent. Through all those years you have not come anywhere close to the actual replacements equaling the actual provision until you get to 1944, have you?

A. That is correct—with this explanation of the question: these indicated replacement rates by years, as shown in Column B, are not expected to conform with any degree of exactitude to the individual replacements, removals and abandonments had in any future year, but are a calculation of the normal average of those things.

Q. All right. Now, then, by the end of—at the end of about 1946 you will have built up then in your reserve about \$2,000,000.00 for these particular items of property more than the actual retirements and replacements have been—isn't that true?

A. That is, if you assume that there is—that the credit balances so indicated will be set aside in a sinking fund, and compounded. Now, I have explained many times before that it would be necessary, in order to protect the owners of this property, at the end of the year 1944, or thereabouts, [fol. 2166] to have a credit balance in the reserve account

represented by approximately 22 per cent of the reproduction cost of the property, because the property is going to be worth that much less on a reproduction cost basis less accrued depreciation than it would be worth at this time on the same basis. Now, that money—that 22 per cent—must be free capital to the owners of this property, because in any rate investigation the value of their property is going to be reduced by the amount of the accrued depreciation. The calculation in Column E does not assume that that would be free capital. It deprives the owners of the use of one penny of that money throughout the entire accrual of that reserve, and they would never have the spending or the use of it, because it is necessary to put the five per cent back every year into the fund in order for it to reach the figure shown; and if the computation should be continued that credit balance in Column E would entirely disappear, and in the meanwhile the owners of the property would never have had the use or benefit of one penny of it, under the method which I have set in Exhibit 42.

Q. Isn't it a fact, Mr. Connor, that the excess of the amounts actually set aside in your proposal as depreciation [fol. 2167] rate in the amount of 8.6 per cent over the actual retirements and replacements, by years, is to be used for the purpose of taking care of the increased actual replacement rate, which you show begins about 1944 and continues up through 1963?

A. That is correct; that credit balance should be sufficient to do that. In addition to that, it must be sufficient to also provide for the decline in worth of this property from January 1st, 1933, up to the time that that decline will become static. I don't believe that the credit balances as indicated by this exhibit are sufficient to make that provision, which is absolutely right and proper.

Q. Now, isn't it a fact, Mr. Connor, that using the methods you have used for your Company, that in a rate case in 1944, and if you proceeded upon the same method that you advocate here, that you will come in then and say, "Well, now, let's forget all this credit balance business and this \$2,000,000.00 that has been built up that has not been necessary to use yet, and let's start all over, and instead of having 8.6 per cent as the annual amount, we will increase that enough to take care of the \$2,000,000.00 already in reserve which we are now going to disregard."?

A. I think that perhaps what you say is correct, and [fol. 2168] that the credit balance in the reserve account at that time would be insufficient to provide for the loss in value which has taken place in the property since this date and the date which you suggest.

Q. But the depreciation allowance is supposed to be enough to keep your properties in the same sort of operating condition through the years up until 1944 as they are in now,—isn't that right?

A. That is correct; and I believe, Mr. Fitzhugh, if the business—if this property of Lone Star Gas Company, as it is to-day, was not amplified and not increased by net capital additions, which would upset its present capital arrangement, but if we had only this property as it exists to-day, and I came into a rate case at some future time, substantially in the future, when these things had reached the point—these annual replacements had reached the point with reference to these specific property items wherein the annual rates of replacement had become more or less uniform, I might suggest at that time that in lieu of a depreciation reserve accrual to provide for the cost of replacements, removals, and abandonments, that those things be charged direct to current operating expenses.

Q. Well, that wouldn't change things any, would it? [fol. 2169] A. No, I don't think it would influence it particularly, but it would be an entirely different method of handling the situation.

Q. If your method works out as expected, when 1944 rolls around you will have the property in just as good operating condition—have the property in just as good operating condition then as it is to-day, because you will have those amounts to apply to the property as it wears out from time to time, to take in new property units, isn't that right?

A. I think that the operating condition of the property would probably be just about the same, yes, sir.

Q. Yes, sir, and you will, in addition, build up a balance of some \$2,000,000.00 in your depreciation reserve?

A. No, sir, I wouldn't say that.

Q. On the field lines and the measuring stations?

A. No, sir, because if the credit balance that would actually accrue would not be compounded, as I have indicated in Column E, the credit balance would be without reference to any accumulation of interest, and would be approximately

what the decline in per cent of new condition had taken place in the property between 1933 and 1944.

Q. Well, it doesn't make any difference, does it, Mr. [fol. 2170] Connor, whether you fund those amounts that are coming into depreciation reserve and regard them as a fund all the time and bearing interest, and whether you just pay them out to the owners of the business and let them put them in their pockets and spend them as they see fit?

A. Well, it makes all the difference in the world.

Q. Why does it?

A. Because the reserve accruals fixed up like I have calculated them in Column E, the owners of the property, so far as that money is concerned, might just as well be in South Africa, because they wouldn't get a penny of it.

Q. They still own the business, don't they,—the owners of the property?

A. Yes, but they wouldn't get the use or benefit of the money as reflected by the rate at which it is accrued.

Q. Well, it wouldn't make any difference to the owners, would it, Mr. Connor, whether the amounts were funded and regarded as a fund and kept intact, and allowed to earn money as a fund, or whether the owners were given the amounts for—by years, and which amounts were reinvested by themselves to earn interest?

[fol. 2171] A. Why, it certainly would make a difference.

Q. Well, at any rate, if in 1944 you came to a rate case and used the general theory that you have outlined, this \$2,000,000.00 lying there in the depreciation reserve would just about amount to clear profit, wouldn't it?

A. Absolutely not.

Q. Well, you have got it lying there and still you disregard that it is lying there and assume a depreciation rate, disregarding that fact, don't you?

A. Why, Mr. Fitzhugh, I have explained numerous times that the decline in per cent of new condition of this property between the periods of time that you suggest would be no more than the credit balance which would have accrued in that reserve, without reference to compounding it upon a five per cent sinking fund basis, and the owners of the property would be entitled to have that money.

Q. Yes, but at the same time you said, Mr. Connor, that there would not be any decline in per cent of property because the properties would be in about the same condition in 1944 as they are now.

A. I said no such thing. I said the properties would be in about the same operating condition, yes; but I didn't [fol. 2172] say they would be in the same per cent of new condition.

Q. So you say that \$2,000,000.00 would represent a decline in per cent of new condition.

A. It would not be \$2,000,000.00, Mr. Fitzhugh, if it were accumulated without reference to—

Q. Well, fund it and let it bear compound interest.

A. Well, if you funded it, then you can't take any depreciation on the property into account, and I take it that anybody who comes in to evaluate this property in the future will take it as shown.

Q. I am talking about what it represents lying there in the depreciation reserve, whether you fund it or not. If it is in the depreciation reserve it amounts to and covers the depreciation and the per cent condition of the property, is that it?

A. I say it is there to provide for that, among other things; but in so far as the calculation shown on page 186, by funding that credit balance, that is merely for the purpose of illustration.

[fol. 2173] Q. On the Transmission System Property, for the Measuring Station Structures, Other Structures, and Measuring Station Equipment, you used 5.1 per cent?

A. That is correct.

Q. As the annual reserve rate of accrual?

A. That is correct.

Q. This covers pretty close to \$700,000 worth of property, doesn't it, in these three items?

A. Yes; it is the sum of two items of \$245,000 each approximately, and another item of \$402,000.

Q. The detail of this 5.1 per cent figure is found on page 288 of your exhibit, is it not?

A. That is correct.

Q. There you use again a two per cent per annum for Current Replacements, Painting and Removals?

A. That is correct.

Q. Now, where did you get that amount in this case, Mr. Connor?

A. That is an estimate, Mr. Fitzhugh, of what those charges will be averaged over the future.

Q. Have you made any study of the actual charges made to depreciation reserve for this item?

A. Yes.

Q. Have you included that in your exhibit?

A. No.

[fol. 2174] Q. Now, what does this study that you made show?

A. It shows that for the six years—for the five years prior to January 1, 1933 that the charges to the reserve account for this item have been approximately \$18,000—something in excess of \$18,000, or about thirty-six to thirty-seven hundred dollars a year for this account.

Q. For which account?

A. The account that we are referring to.

Q. That is Transmission System Station Structures and Equipment?

A. That is correct.

Q. And does that include other structures?

A. That would include the warehouses on the main line system, too.

Q. Now, then, two per cent of the \$145,000 for Measuring Station Structures and of the \$145,000 for Other Structures, and of the \$402,000 for Measuring Station Equipment, would be around \$14,000 per annum, would it not, instead of the \$3700 per annum that you actually found to have been spent?

A. Yes; that is correct.

Q. Do you mean, Mr. Connor, that you have assumed a rate that would produce \$14,000 per year when only \$3700 would be actually needed?

A. Yes; when the stations during the time I took them into consideration were practically brand new.

[fol. 2175] Q. What is the average life of the Measuring Station Structures?

A. I don't know exactly what the average life of the Measuring Station Structures is, Mr. Fitzhugh; but it would be very close to the average life of the tap lines, because they are constructed in connection with the tap lines, which are the lines which go from the main lines to the measuring station at the city gate.

Q. Do you know the average life of the tap lines?

A. As of the year 1925, fifteen per cent of the tap lines now in service of Lone Star Gas Company were in service; and from the year 1925 until the year 1931, a period of six years, eighty-five per cent of the entire tap lines of Lone

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Star Gas Company were constructed; and I would say that a logical conclusion to draw from that fact would be that eighty-five per cent approximately of the total city gate measuring station structures and equipment have been constructed within that same period. Now, the weighted age of those particular units, I may have, Mr. Fitzhugh, and I may not.

Q. Well, that is all right; that is all I am asking for.

A. If I don't have the weighted age, the nearest facts that would give you an indication of what the age of those lines is would be the date at which they were installed, and that is what I was attempting to give you. Mr. Fitzhugh, [fol. 2176] I am very sorry that I can't give you the specific weighted age of the tap lines, because it would show that the tap lines measured in that manner, have been in service a very short period of time. I have, however, on page 114, a tabulation which sets out the weighted age of all tap lines and main lines. The main lines of the system are older, as a whole, substantially, than the tap lines, and they form substantially a larger proportion of the combined figure of main lines and tap lines; but the weighted age of main lines and tap lines together is 8.9 years; as of January 1, 1933; but I have no independent calculation with reference to the tap lines.

Q. Notwithstanding that you were not sure about the average age of the tap lines, or for that matter of the Measuring Station Structures and Other Structures, and Measuring Station Equipment of the Transmission System Property, you did use on page 288 a total life of twenty-five years in figuring out your amortization allowance?

A. That is true I used that figure, but I would not subscribe to the fact or statement that I had no knowledge of the age of these structures and equipment.

Q. Well, what is the average age of them?

A. I don't know what the average age is, but I know that approximately eighty-five per cent of them have been installed since the year 1925, and I have the percentage in [fol. 2177] service for each year since the date of the construction of Lone Star Gas Company's property, and that in itself is very definite information upon which to make a determination of how old a group of property units is, and it contains the elements by which I could make an exact determination of the weighted age.

Q. Well, how did you justify, Mr. Connor, your wanting \$14,000 a year put aside for retirements and replacements when only \$3700 is currently being needed for such things?

A. Upon the principle that a man buying an automobile and running the automobile when it is brand new would not expect his tire expense during the first thousand miles of use of that car, or during the second thousand miles of the use of that car, or during the third thousand miles of use of the car, to be any fair criterion of facts, upon the basis of which he should make a provision for replacement of those tires. In fact, if he did go upon the assumption that what he had to pay for the first thousand miles, or the second thousand miles, or the third thousand miles was the proper basis, then he would reach the absurd conclusion that he would not have to buy any tires.

Q. Or to sum it up, you sort of stretched out your pipe about the same way you would rubber on an automobile?

A. No; that is not correct.

Q. But in addition to all this, you have an amortization in [fol. 2178] twenty-five years, on a five per cent annuity basis, amounting to 2.1 per cent per annum?

A. That is correct.

Q. Which is intended to replace the whole amount of this property one hundred per cent in twenty-five years?

A. That is correct. The annuity basis is for the complete retirement or replacement of the unit, despite the fact that it requires material in the meanwhile to keep it in proper and serviceable condition.

Q. Now, if the average age of these items of property at the present time is approximately ten years,—and it is approximately that, isn't it?

A. Absolutely not.

Q. Well, you figured out 8.9 on the tap lines, and other lines, and you say these structures are about the same as the tap lines?

A. Yes; that is exactly what I said.

Q. What do you figure would be an estimate of the average life—

A. You mean, the life up to this time?

Q. Yes, of the Measuring Station Structures, Other Structures, and Measuring Station Equipment?

A. I have not made a calculation, but I say this: It is clearly indicated by the records I have before me that those

items taken as a property group are the youngest items [fol. 2179] in service in the property account of Lone Star Gas Company.

Q. Well, they have at least an average age of five years, don't they?

A. I don't know whether they have or not, Mr. Fitzhugh. I doubt it very seriously.

Q. When was the last Measuring Station Structure built?

A. I can give you the percentage of these tap lines by years—the accumulated percentage.

Q. Hasn't the youngest Measuring Station Structure been in service at least five years?

A. No; I would not say so. There was in 1922 twelve per cent of tap lines of Lone Star Gas Company in service; in 1923, only 13 per cent were in service; and in 1924, only 13.6 per cent were in service; in 1925, only 15.7 per cent were in service. Now, a large increase took place between the years 1926 and 1927; approximately 30 per cent of the tap lines in the System were constructed between the years—or during the year 1927, thirty-two per cent; in the year 1928, there was approximately 13 per cent constructed; in the year 1929, there was approximately 24 per cent constructed; in 1930, there was approximately 5 per cent constructed. So, as of January 1, 1933, there was 5 per cent constructed in the year 1930. I am referring now, specifically, to the tap lines of Lone Star Gas Company. [fol. 2180] Those percentages of the tap lines indicate the total average of 3-inch equivalent diameter pipe in approximate percentages which have been installed during each year from 1927 through 1930; so, it is very clear that a very substantial part of those property units are comparatively young.

Q. Can you tell from that what the weighted age is?

A. No; I cannot, without making a calculation and giving effect to the footage of the pipe in service each year, and it would be an extended calculation.

Q. What are the oldest transmission lines in the Lone Star Gas Company system?

A. Lines B and C.

Q. When was Line B installed?

A. The latter part of 1909.

Q. When was Line C installed?

A. A little later, but during the same construction period.

Q. In 1909 or 1910?

A. It may have been the latter part of 1909, or the early part of 1910; I am not quite sure. They were constructed and put into service the early part of the year 1910.

Q. What is the number of 3-inch equivalent feet of pipe in Line B and Line C?

A. Approximately, Mr. Fitzhugh, I would say 646 miles of 3-inch equivalent diameter pipe. Yes, I said about 646 miles of 3-inch equivalent diameter pipe.

[fol. 2181] Q. That is the combined two lines?

A. Yes, sir.

Q. What would it be separately on Line "B" and Line "C"?

A. I don't know whether I have it separately, Mr. Fitzhugh. No. I have the footage.

Q. All right. The footage is all right.

A. Let's see if I have that. No; I haven't it separately. I have that separate for different sizes of pipe, but I haven't reduced that—I made a reduction of three inch equivalent diameter and got it in the mileage basis, so I haven't even the three inch diameter separated by sizes of line, even, expressed in feet.

Q. What have been the actual mortalities on pipe on Lines "B" and "C" from the time they were originally installed to date?

A. On the "B" system, exclusive of Line Second "B", the replacements, removals and abandonments of that pipe have been 1,631,000 million feet equivalent three inch diameter pipe.

Q. Is that due to wearing out of the pipe only?

A. The largest part of that, Mr. Fitzhugh, is the major removal, which included 1,463,590 feet equivalent of three inch diameter pipe.

Q. Well, now your curve that you find on page 57 deals only with the actual wear and tear, doesn't it?

A. That is correct.

Q. Wearing out in service?

A. That is right.

Q. Now, give me the figure that represents on Line "B" [fol. 2182] and Line "C" the actual replacements due to wearing out of pipe in service.

A. I don't believe I have that specifically calculated for each line, Mr. Fitzhugh. The table on page 79 shows a de-

tailed breakdown of the mortalities for various causes, as far as I was able to ascertain those causes from an inspection of all the records of Lone Star Gas Company from the date of its organization.

Q. Now, to make that table you had to have the figures on Line "B" and "C", didn't you?

A. Yes; but, inasmuch as I was not dealing with individual lines in making my calculation, I simply carried into this table a segregation of the mortalities for various causes as I was able to determine them.

Q. Well, you had the actual mortalities due to wearing out of lines in service, did you not?

A. No; I made no determination of those things for individual lines, because, such things as that, I could not have done it in the first place, and it wouldn't have meant anything in the second place.

Q. Well, in making any sort of a pipe study or trying to find a curve that will show mortalities of pipe, the oldest lines naturally become the most important lines in the study?

A. Yes, in some cases and in some cases, no.

Q. Did it happen in the case of Line "B" and Line "C"?

A. No, sir.

Q. Why?

A. Well, for several reasons. Line "B" and Line "C" [fol. 2183] in 1917 were taken up out of the ground, cleaned, scraped, the paint removed, given an entirely new application of protective costing, turned over and put back in the line. That act alone, I would say, reduced the rate of those lines five or six years or more. Furthermore, the location of Line Second, "B" along the limestone ridge north of Fort Worth, with the exception of a very short stretch of line in the neighborhood of Henrietta and Bowie, is located in the most favorable situation for the long life of steel pipe of any piece of pipe in the Lone Star Gas Company system.

Q. Now, as to the pipe being taken out and cleaned, Mr. Connor, and its life being prolonged on that account you have allowed for all that cost in your allowances, have you not?

A. Yes; in making my calculation for future replacements I have reduced the age of that pipe correspondingly and made an adjustment for that very thing.

Q. Well, Line "B" runs through Clay County, doesn't it?

A. Yes, sir.

Q. Isn't that alkali and gyp soil we have heard so much about?

A. There is a short stretch of Line "B" which is in a situation which is not particularly good for pipe. Compared to the length of the line as a whole, it is comparatively short.

Q. Well, isn't it a fact that the same sort of conditions are found on Line "B"?

A. Absolutely not.

Q. That is your testimony?

A. That is my testimony. There are some conditions on Line "B" that are worse than others.

[fol. 2184] Q. In the Railroad Commission's order, page 61, Mr. Connor, this language is found: "Lines B and C, which were the first lines laid in the Lone Star Transmission System and which were laid in 1910, contained 646 miles of three-inch equivalent pipe. Lines B and C are 16-inch lines and run from Dallas to Petrolia (near Wichita Falls) via Fort Worth, a distance of approximately 650,000 feet (125 miles). Some of the most severe soil conditions to be found on the whole Lone Star Gas Company system are on those lines (Line B in Clay County)." I will ask if those statements as they appear in the Railroad Commission's order were not taken directly from your testimony before the Railroad Commission?

A. If that is correct, then I made a mis-statement when I testified before the Railroad Commission, because the facts are that no such condition exists relative to Line "B" and Line "C", and to state that that is the most severe condition on the Lone Star Gas Company system can be refuted by actual experience in a thousand cases.

Q. Reading further in the same portion of the Commission's order Mr. Connor, this language appears: "These, the oldest lines (laid in 1910) in the Lone Star Transmission System, were 21 years old as of December 31, 1931, have a total of 646 miles of three-inch equivalent pipe (650,000 feet of 16-inch), and had actually experienced mortalities from all causes of 57 miles (301,260 feet of three-inch equivalent pipe) up to December 31, 1931. The total

[fol. 2185] mortalities in the 21 years, therefore, amounted to nine per cent. The estimated average life of pipe in these lines is 40 years plus." Now, I will ask you if all those figures and facts were not taken from your testimony just exactly as you testified before the Railroad Commission?

A. I do not recall, Mr. Fitzhugh, all the figures to which I testified before the Railroad Commission, but I do not wish it to be construed as an interpretation of anything I stated before the Railroad Commission as reflected by the order of the Commission to which you refer. You are probably correct exactly that the number of feet of pipe which have been removed, replaced or abandoned in those lines, exclusive of about a million and a half feet, to which you make reference, is, so far as Line "B" is concerned, and it may be that the per cent set out is nine per cent, and it may be that the indicated average life based on that replacement is forty or fifty years or five hundred years. My statement is that the average life of pipe will have nothing to do with the rate of replacement and the rate of replacement of that pipe will have nothing to do with the average life of that pipe.

Q. On December 31, 1931, which was the date of your appraisal as testified to before the Railroad Commission, isn't it a fact that the actual mortalities of lines "B" and "C" on their twenty-one years of life up to that time was actually nine per cent?

[fol. 2186] A. I don't doubt it at all. I just said that it is correct, and it goes to show that it doesn't mean anything.

Q. Now, referring to your curve on page 57 and as shown in the tabulation on page 62 of the Railroad Commission's order, the actual mortalities at the end of twenty-one years was 25 per cent?

A. You mean calculated?

Q. Yes. I mean the calculated mortalities as per your curve.

A. Yes, that is probably correct.

Q. As against the actual mortalities of nine per cent?

A. Yes, that is correct.

Q. So your curve shows to be off from the actual mortalities for that twenty-one year period the difference between nine and twenty-five per cent?

A. Absolutely not.

Q. You don't deny, do you, Mr. Connor, that nine per cent is the correct amount of actual mortalities for twenty-one years?

A. No.

Q. Or that twenty-five per cent is the calculated mortalities for twenty-one years?

A. No.

Q. The difference between those is how much?

A. About sixteen per cent.

Q. Doesn't that represent the difference between your curve and what actually happened?

[fol. 2187] A. You mean the specific items?

Q. On the oldest lines, I am talking about, in the system, "B" and "C".

A. Why, yes.

Q. Now, then, coming to the 5.4 per cent annual rate of reserve accrual which you apply to Transmission Line Equipment, that is derived from what pages in your exhibit?

A. I think, Mr. Fitzhugh, that that is set out on page 142 to and including page 170.

[fol. 2188] Q. Now, this is the same type of tabulation on page 169 as you had in finding this 8.6 per cent figure for the field line and gathering line equipment, isn't it?

A. What page is that, Mr. Fitzhugh?

Q. Page 169.

A. Yes, it corresponds to the tabulation shown on page 186, which latter tabulation refers specifically to field lines and well lines.

Q. And in this case also you have an annual accrual that exceeds considerably the first few years the actual requirements?

A. That is correct. There would not have been any necessity for an annual accrual if that fact had not been apparent. That is what accruals are made for.

Q. The application of this 5.4 per cent to the transmission line equipment, reproduction cost new in the amount of \$28,524,682.42 results in an annual amount being set up of \$1,540,332.82, does it not?

A. That is correct, as shown by page 1 of Exhibit 41.

Q. Now, how does this \$1,540,332.82 compare with the

actual predicted amount necessary to take care of replacements and removals for the year 1934?

A. I don't know, Mr. Fitzhugh, to what extent it will provide—you mean as relative to the percentage?

Q. Yes.

A. You don't mean the actual expenditures, do you; you just mean the calculation shown on page 169?

[fol. 2189] Q. You want to collection One and One-half Million Dollars, approximately, and I want to know in 1934 what the actual retirements and replacements in money will be, in dollars and cents, as shown by you on page 169.

A. Something in excess of half of that amount, taking into consideration the provision for the future costs of removals due to public requirements and changed operating conditions and the current decline in per cent of new condition, or the current average rate of the decline in per cent of new condition.

Q. How many feet of three inch equivalent are there in the system?

A. I don't know that I have that figured out, Mr. Fitzhugh; I may have it here.

Q. Well, you had to have that figure, didn't you, Mr. Connor, in order to make those computations on page 169?

A. No, I used miles of three inch equivalent.

Q. Well, miles will do.

A. Well, there's 11,867.19 miles of equivalent three inch diameter pipe.

Q. Now, if you apply the 2.882 per cent which you say will be the actual replacements for the year 1934 to the total mileage of three inch equivalent, how much would you have as representing the replacements and retirements for the year 1934?

A. I don't know, Mr. Fitzhugh; but when did I say that 2.882 was the actual rate of replacements?

Q. Isn't that figure on page 169?

A. No. Refer please to page 168. The actual rate of replacements I figure is .99 per cent, and not 2.882 per cent.

[fol. 2190] Q. Well now, in Column C, for the same year, you have .86?

A. That is correct.

Q. Which represents the annual renewal rate from your mortality curve No. 2?

A. That is correct; add those two together and you will have a correct statement.

Q. Well, don't you also have .2 in column F, the annual rate for major rehabilitations added in?

A. That's right, but that is a rate which contemplates the cost of items which occur at infrequent intervals, and which are not likely to be found in any particular given year, and so the actual figure which should be used in that connection would be the sum of .99 and .86?

Q. Or 1.85?

A. That's right; 1.85 per cent.

Q. Now, applying that to the 11,000 plus miles of three inch equivalent, Mr. Connor, what do you get?

A. I am not going to carry those odd feet out, Mr. Fitzhugh; but it would be about 219½ miles.

Q. That is over a million feet of pipe, isn't it?

A. Yes. We are talking about 1934 now?

Q. Yes. Now, the actual replacements in 1933 were around 250,000 feet; isn't that right?

A. I don't know that they were. I have it for the first six months.

Q. Well, it was 211,000 feet for the first six months, I believe you gave us?

[fol. 2191] A. That was for the main lines and the tap lines, I believe.

Q. What was it for 1932?

A. A very small amount, Mr. Fitzhugh; 27,374 feet.

Q. Now then, Mr. Connor, where the actual replacements in 1932 were 27,000 feet.

A. That's right.

Q. And the actual replacements for the year 1933 are shown to be around 250,000 feet.

A. Where are they shown in that exhibit, Mr. Fitzhugh?

Q. Well, those figures are not shown in your exhibit, but they are the correct figures as we have them, and we have asked you for those figures. If you check them you will find, I believe, that they are correct.

A. They may be.

Q. Would it seem reasonable, if those are the correct figures, Mr. Connor, for you to compute your figures in your exhibit here so as to jump up the actual retirements and replacements to over a million feet in 1934?

A. Yes, and I feel I have excellent reasons for doing that.

Q. And in spite of the fact that you have shown on your table 4-A the actual mortalities for 1934 will be less than one per cent you want the depreciation rate to be applied to this class of property to be 5.4 per cent?

Q. Now, what's that now—I didn't get the question.

Q. I say, Mr. Connor, in spite of the fact that on your table 4-A you show that the annual actual renewal rate for [fol. 2192] 1934 will be less than one per cent—being .99 per cent, to be exact; yet for that same year you are suggesting that an amount of 5.4 per cent be applied to transmission line equipment?

A. Why, certainly. Because the age of this property is such that the rate of replacements at this time are no indication of what the rate of replacements that must be provided for in the future will be.

Q. Now, on this same page, table 4-A, in your explanation of your Column B.

A. Which page is that, Mr. Fitzhugh?

Q. Page 168; your explanation shows that you obtained Column B by multiplying Column A by $.96 \times 1.18$?

A. That is correct.

Q. Now the .96 has been explained as being the ratio between the transmission line equipment and the whole property, I believe?

A. Yes, that is the explanation I attempted to give this morning, Mr. Fitzhugh, as to why, in order to make it even, I had to apply the same rate to non-depreciable items as to depreciable items, because I had applied that factor on this page, which is page 168 of Exhibit 42.

Q. Now, the factor of 1.18 which you included is put in there to take care of the cost of piecemeal construction, over and above wholesale construction; is that right?

A. Yes, after making a further adjustment for the effect of the salvage value of the pipe removed.

Q. Where is the page where you derive this 1.18 factor? [fol. 2193] A. I think that is set out in detail on page 157, Mr. Fitzhugh.

Q. Before any allowance for salvage value you find that the cost of piecemeal replacements over wholesale construction would be 1.5; is that correct?

A. Yes, that is a figure which was arrived at by a study of individual jobs which reflected a higher ratio than that,

but I felt that in those replacement jobs there had been some incidental charges for minor repair work in connection with that replacement which caused me to reduce that to 1.5; that's right.

Q. Do you have that study with you?

A. I have my notes, on that study; yes, all of them.

Q. That is the study where you got the 1.5?

A. Yes.

Q. Now refer to those notes will you please, Mr. Connor, and pick out the biggest charge that forms a part of that study.

A. I find one analysis which covered 25,000 feet in one job.

Q. Is that the biggest one, now?

A. I don't know; I think there was one longer than that, Mr. Fitzhugh.

Q. Well, will you look about that, Mr. Connor, over the noon hour so we can ask you a question or two about it after lunch?

A. Yes, I will be glad to.

[fol. 2194] Q. Mr. Connor, just before noon you were asked to find the biggest replacement on the study that you made from which you derived your 1.18 factor, as used in your Column B calculation on the table appearing on page 168 of your Exhibit 42.

A. The 1.16, you mean?

Q. No;—1.18.

A. Oh, yes; 1.18; that was what it was finally reduced to, that is correct. I haven't only the longest line, Mr. Fitzhugh, but I have the amount of footage and the number of jobs analysed for 100 feet or less; 100 to 200 feet; 200 feet to 500 feet; 500 feet to 1000 feet; 1000 feet to 1500 feet; 1500 feet to 2000 feet; 2000 feet to 3000 feet; 3000 feet to 4000 feet; 4000 feet to 5000 feet; 5000 feet to 6000 feet; 6000 feet to 7000 feet; 7000 feet to 8000 feet; 8000 feet to [fol. 2195] 9000 feet; 9000 feet to 10,000 feet; and 10,000 feet to 11,000 feet; and the excess of those.

Q. Did you find a separate factor for each one of those different classes?

A. No; I took the average for the total. The longest job analyzed, and the largest footage of pipe was E. R. 9505, covering the removal of 34,938 feet of 16-inch pipe on Line J.

Q. When you say you took the average of those different classes to get your final figure, what do you mean?

A. I took into account only the cost of labor—

Q. Well, did you average all of the labor?

A. Six-inch pipe; four-inch pipe, sixteen-inch pipe, ten-inch pipe, and so forth.

Q. On every replacement?

A. No; I wouldn't say every replacement; but all of the replacements upon which I could get any very accurate information that had been replaced in recent years—a very large number—as much as the number of men I had working on it could get together in the time I had to make the study.

Q. Is it an average by size of pipe, or length of replacements, or what sort of average—I don't understand?

A. The way it finally works out is the weighted average. I took the number of feet of pipe in the analysis, which was 186,413, and for the specific sizes of pipe and specific [fol. 2196] lengths of pipe involved in the analysis, I applied the reproduction cost, labor and job costs found by the appraisal made by Mr. E. A. Steinberger and myself as of December 31, 1931, and I got thereby the amount of money which would be involved in direct labor and job costs for the number of feet of pipe for the various sizes; I added that cost up; it was \$285,522.43. The actual labor cost of installing that number of feet of pipe in the manner in which it was actually installed in making the replacements was \$461,073.37.

Q. Did this study of yours cover the 1933 replacements?

A. No; it did not.

Q. Now, give the data on the largest replacement that you have, Mr. Connor.

A. Line J, 16-inch, cost of the labor, trucking and traveling expense, teaming, automobile expense, and insurance, and miscellaneous expenses, was \$59.94 per lineal foot of pipe, which was the lowest cost of any job included in the study.

Q. In your 1931 appraisal what did you and Mr. Steinberger find to be the cost of installation per foot?

Mr. Griffith: Do you mean for the 16-inch pipe, Mr. Fitzhugh?

Q. Now, if you found 59 cents plus on this 16-inch, covering all these different items that you called off, how in

the world could you compare that with any other costs, [fol. 2197] without knowing the installation costs?

A. Well, I did at the time I made this comparison.

Q. What did you compare this 59 cents with?

A. I did not compare the 59 cents with any other figure; but I had included in the Line J 16-inch pipe replacements numerous items that cost as much as \$5.83 per foot, \$5.66 per foot, \$4.70 per foot, \$4.30 per foot, and \$3.48 per foot. I was not going to take the cheapest job, because it would not have been a representative example.

Q. What was your total cost on this J-16-inch?

A. The charge to the reserve for depreciation on Line J was \$82,488.97, which was subject to a correction of \$32,113, which grew out of the fact that the depreciation reserve was credited with the salvage value of 32,113 feet of 16-inch pipe at the rate of one dollar per foot, or \$32,113. I am now referring to the original charge to the depreciation reserve account. This \$32,113, which was a credit at the time of the preparation of the original voucher was found to be an error, for the reason that on further examination of the pipe salvage it was determined that it was not worth anything; and in order to secure the effect of that adjustment you would have to add to the cost of that job, as a charge to the depreciation reserve account, the sum of \$32,113, which brings the total cost of the job as reflected by the other charges to the depreciation reserve account to something in excess of \$112,000.00.

[fol. 2198] Q. Now, this factor we are talking about—this 1.5 factor that represents the difference between piece-meal—what you call piece-meal construction and wholesale construction—

A. Yes, sir.

Q. —would have to be taken into consideration on this J 16-inch?

A. It would have to be taken into consideration on all replacements made, taking into account the medium, the short, and the long ones.

Q. This 59 cents per foot on Line J represents the actual cost, doesn't it?

A. No; that is the actual cost in so far as the actual charge to depreciation reserve for labor is concerned.

Q. And covering all the items you named in the record a while ago. That is piece-meal construction?

A. No; I would not say so, because they took a ditching machine and went down Line J just like they would in wholesale construction.

Q. But that is what you consider in your study as piece-meal construction?

A. I took all of them. Some of the replacements made would partake of the nature of wholesale construction, and I took those along with the piece-meal.

Q. Is this Line J considered as wholesale construction?

A. It was in effect wholesale construction; but I included [fol. 2199] it in my studies of replacement costs along with the smaller ones in order to get a fair, reasonable average.

Q. If you worked out your study that way, including both wholesale and piece-meal construction in trying to get a factor that would make a correction as between piece-meal construction and wholesale construction, wouldn't your study be of no use whatsoever—

A. Absolutely not.

Q. —by mixing up both in the study itself?

A. Absolutely not, for the very reason that we find in making replacements that very frequently we run into replacements that partake of the nature of wholesale construction. If I had left Line J out I would have increased the average costs very materially, but I don't think that would have been a proper thing to do.

Q. Now, to get to your factor, Mr. Connor, you compared a computed amount of \$205,520 something dollars with the actual expenditure of \$461,073?

A. That is right.

Q. The 59 cents per foot for Line J, that went into the \$461,073 figure, didn't it?

A. That is right.

Q. Now, what would be the corresponding figure that you used to compare with this that went into the \$205,520 figure?

A. The wholesale reproduction cost of 16-inch pipe as used in the appraisal.

[fol. 2200] Q. Well, what was that?

A. I don't recall; but that is what I did.

Q. Do you know how you got the \$205,000 figure, don't you?

A. Yes.

Q. How did you get it for 16-inch pipe?

A. Took the average cost of construction for 16-inch pipe and applied it to the number of feet of pipe involved in this analysis of 16-inch pipe.

Q. But you don't know what price per foot you applied?

A. No; not at this time; but the figures I used are correct and represent the actual figures used in the appraisal.

Q. Have you any detail at all on this \$205,000 figure?

A. No more than I have explained that I applied.

Q. Well, without knowing what prices you applied for different sizes of pipe to get this \$205,000 figure, it is utterly impossible for us to check your computation at all, isn't it?

A. I don't know whether you can check my computation or not, but I am giving you the facts concerning the manner in which I prepared it.

Q. Can you tell what part of the \$205,000 figure your 16-inch pipe played?

A. Can I tell you what?

Q. You have some 16-inch pipe that goes into this \$205,000 figure, haven't you? Can you tell how much it is in dollars and cents for 16-inch pipe?

[fol. 2201] A. No; I would have to divide 59,440 into 130,000—oh, yes, the weighted cost per foot is \$2.1893, and adding the excess labor costs—I am very sorry, Mr. Fitzhugh, that I did not notice that I had those figures right before me; it has been quite a little while since I looked at this.

Q. All right, then.

A. Now, adding the excess labor costs as found by the analysis of these jobs to that figure,—the excess labor costs only, because I am assuming in each case that the labor costs would be the same—I get a per foot figure of \$3.18, which is 1.45 times the reproduction cost.

Q. Where did you get the excess labor that you added to your unit cost?

A. From this analysis of the various and sundry jobs that I have heretofore explained.

Q. Now, what was the amount of the excess labor?

A. For the 16-inch pipe?

Q. Yes.

A. 99.4 cents per foot.

Q. Now, that probably came from Line J and some other lines, too?

A. Included Line J, but the excess labor costs probably might have been—the average excess labor cost was mate-

rially reduced by the inclusion of Line J in the study, because it was a large job, and the actual cost of making the replacements on Line J would not materially differ from [fol. 2202] the actual costs in doing original construction work, because the length of that job justified the use of a ditching machine, and the extra costs, which become a proportionately large part of small replacements, were distributed over a considerable amount of work.

Q. Now, let's see if I am getting anywhere. You took this \$2.1893 per foot for the 16-inch, which is an average figure that Mr. Steinberger found in his appraisal?

A. That is correct.

Q. You added 99.4 cents per foot for the excess labor cost that you found from these studies?

A. That is right.

Q. That gives you a unit price per foot for 16-inch, which multiplied by the amount of 16-inch pipe, gives you the amount that you included in this \$461,073 figure?

A. That is right.

Q. Now, to compare that with the 16-inch in this \$205,000 figure, you included the J 16-inch at 59 cents per foot, and some other 16-inch, too, didn't you?

A. That is right.

Q. Now, then, can you tell us, so we will have a comparable figure, how the 16-inch included in your \$205,000 figure finally worked out? What was the average price per foot for 16-inch?

A. I think I have told you—\$3.18.

Q. In the \$205,000 figure?

A. No; it was simply weighed in with all the rest of it. [fol. 2203] Q. The 16-inch and the \$461,000.00 figure is in there at about \$3.19 something per foot, isn't it?

A. \$3.18, that is correct.

Q. \$3.18 per foot. Now, can you tell what the 16-inch, when the \$205,000.00 figure is in there—at what figure it appears in the cost per foot?

A. Yes, approximately \$2.19 per foot.

Q. That is \$2.19 as against \$3.18?

A. That is right, direct structural cost.

Q. Now, then, will you explain, Mr. Connor, why you added to Mr. Steinberger's cost, as found in his previous appraisal, this 99.4 cents for extra labor cost?

A. Because on the analysis of the extra labor jobs—the very thing I was trying to find out—I found it cost on the

average for 16-inch pipe 99.4 cents more on labor cost than Mr. Steinberger computed.

Q. Now, how did you get that 99.4 cents.

A. By taking each construction job that I could have an analysis made on—(Witness consults data)—74 jobs were analyzed, Mr. Fitzhugh. A very large part of it was dresser couplings—practically all of it.

Q. You have the sheets in your study before you, don't you?

A. Yes, sir.

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[fol. 2204] Q. Now, then, Mr. Connor, looking at your study, don't you find that you found that the average cost per foot for all 16-inch replacements which were actual installations turned out to be \$1.41?

A. That is for certain specific items, yes.

Q. That covers all the labor cost, doesn't it?

A. It covers labor, trucking, traveling, teaming, automobile, clerical, insurance, and in some cases miscellaneous expenses. It does not include the structural overheads which are direct overheads.

Q. Now, then you say that—

A. Those items, then, were—they were treated in connection with the exact comparable items included in Mr. [fol. 2205] Steinberger's reproduction cost estimate.

Q. Then, from this \$1.41 per foot you reasoned that that was 99.4 cents more than Mr. Steinberger had used in his appraisal?

A. For the identical items, yes, the expenses.

Q. Now, if you are correct in that, the price that Mr. Steinberger used per foot would have been about 42 cents, would it not?

A. For those specific items, yes.

Q. Well, is it your testimony, now, Mr. Connor, reasoning back in this way, that Mr. Steinberger did use 42 cents for his cost in his previous appraisal?

A. For the specific items which I have enumerated, yes, or approximately that amount, because in some cases these charges to the actual piecemeal replacements do not show any costs included for some items.

Q. Well, this whole thing depends upon the correctness of Mr. Steinberger's calculations; does it not?

A. Well, it depends upon the correctness of Mr. Steinberger's calculations for the determination of a ratio between the actual cost and Mr. Steinberger's appraisal. Now, if some fellow would come along here and make a much lower reproduction cost than Mr. Steinberger made, then the actual cost would be correspondingly higher than that figure.

Q. Well, what I mean, you never could have found a factor without using Mr. Steinberger's figures which he—
[fol. 2206] A. Why, certainly; I could have made another factor half again as big as that if I had used Mr. Freese's figures.

Q. And you could have made it half again as low if you had used some other figures?

A. Of course, you are correct, absolutely.

Q. Of course; you could have found an infinite number of factors if you wanted to?

A. That is right, depending on who made the reproduction cost estimate.

Q. You found an average salvage value of 50 per cent of the cost of new pipe and fittings, did you not?

A. No, sir, I assumed it.

Q. Did you have any reason for making that assumption?

A. No, sir, other than the fact that I wanted to be on the safe side.

Q. Well, one other question back about that study we were just talking about, Mr. Connor, where rock excavation was actually encountered in the original construction,—of course, you wouldn't have to bother with that in the replacements, would you?

A. No—no.

Q. Well, what correction did you make in your figures to take that fact into consideration, that the original rock excavation would not again be encountered?

[fol. 2207] A. I didn't have to take it into account, because on my replacements, even though there was no rock—solid rock to be removed, by reason of the fact that it had already been broken up in the original construction, despite that fact, I found that the ratio of cost of making piecemeal replacements was what it was; in other words, if I had made a correction factor for that point it would have increased the ration; but it would not have been proper to do so, because there was no rock encountered in

those cuts that had already—in the ditches which had already been blasted out.

Q. This figure as found by you was, however, applied to all of the construction that actually did have rock excavation, was it not?

A. Why, yes, certainly, because the replacements included in this study probably were made where originally there had been rock, but, of course, in estimating the cost of this—in taking the cost of these actual replacements there was no rock excavation involved, because there was no rock to take out.

Q. Now, starting again on this salvable value?

A. Which page, Mr. Fitzhugh, please?

Q. On page 157,—where you assume that 50 per cent of the value new of pipe and fittings can be salvaged; you [fol. 2208] then compute from that to get the 21.35 per cent of the total cost for piecemeal replacements. How did you obtain that?

A. Well, the detail is set out on page 157, exactly how I got it. If you wish me to read it into the record I will be glad to do so.

Q. Well, did you multiply your 50 per cent by this 42.7, or how did you get that?

A. Well, I made an analysis of what the per cent of the total installed cost of—or the actual cost of a large number of lines was, represented by the cost of pipe and fittings; and that study is shown in Table 3-A, on page 167.

Mr. Griffith: Of Exhibit 42?

A. Of Exhibit 42, and it was found that 64 per cent of the total installed cost was pipe and fittings. Now, 64 per cent of 100 per cent is 64 per cent, but when you increase that to 1.5 per cent—no, when you increase your 100 to 150 per cent, and let your material and equipment stand, which it would in the case of a replacement, that 64 per cent then becomes 42 per cent of the cost of piecemeal jobs, because labor on those jobs has become a larger portion of the [fol. 2209] proportionate cost of the whole job. If it is assumed that the pipe and fittings are removed and are in 50 per cent condition, then this salvable value becomes 21.35 per cent of the total cost.

Q. Mr. Connor, so we can follow you, would you mind working out on this blackboard up here the multiplications you made on these various percentages to finally come at this 1.18 factor that you show at the bottom of page 157?

A. If you will permit me, Mr. Fitzhugh, I would prefer to do it here, and then, if it is necessary, I can go to the blackboard and delineate them later, if that is satisfactory.

Q. Anyway, just so it is explained.

A. It is explained, however, in detail on page 157.

Q. I know, but nobody can follow your multiplications from this explanation—at least, I can't.

A. I might not be able to repeat them.

[fol. 2210] A. Now, Mr. Fitzhugh, I will take just the first calculation, how I got the 42.7—divide 64 by 150 and you get 42.7 per cent.

Q. All right.

A. Now, divide that by 2 and you get 21.35 per cent,—is that clear?

[fol. 2211] Q. Yes, sir. Now, incidentally, that division was on account of the assumption you made that there would be 50 per cent salvable value; is that correct?

A. That is correct. The total salvable value becomes 21.35 per cent.

Q. Now, what do you do with that 21.35?

A. Well, I take one more step right there, and I can't say just as this second what happened. However, I can figure that out at the next recess.

Q. Well, you will admit that nobody can read those papers of yours and learn what you finally concluded about it?

A. Well, it is difficult to make a clean-cut statement.

Q. At any rate, you can't read your own book there now and tell us that?

A. Not right now. It has been six months since I put the figures in the book.

Q. Now, on page 168, your table 4-A—

A. Mr. Fitzhugh; before we go any further, all that I did there was to subtract that 21.35; but I don't believe that that simple calculation is correct.

Q. You are not sure about that?

A. No, I am not sure. If it is, it ought to be increased by ten per cent.

Q. If you made a correction of about ten per cent it would only amount to about one hundred thousand dollars a year; wouldn't it?

[fol. 2212] A. Yes, and I think if it is an error it would be proper to make the correction.

Q. All right. Now, on this same page, your column D as shown in the detail—

A. Which page is that, Mr. Fitzhugh?

Q. Page 168; that is your Table 4-A. Your column D is column C times factor .7. Now, this .7 is also a salvable factor, isn't it?

A. That is correct.

Q. Now, how did you find that?

A. That is shown in detail on page 167, Exhibit 42.

Q. This factor is derived from your mortality curve 2, isn't it?

A. Which factor?

Q. This .7.

A. No. .7 is derived from a study of the determination of salvable value and major removals.

Q. That is right, but your column C, to which .7 is derived, is derived from your mortality curve 2?

A. That is correct.

Q. What is the total number of feet of major removals that have been made since the company started business?

A. You mean those that I have designated as major removals?

Q. Yes.

A. It is set out in detail on page 79.

Q. And what is the total?

A. 2,699,972, and 1,590,452 set out in Column D is the pipe [fol. 2213] replaced in major replacements caused by change of operating conditions. As a matter of fact, those two segregations might very well have been left together.

Q. In order to get the results shown in Column C on page 168 you made an analysis on the removal of this 1,590,452 feet; did you not?

A. What is that?

Q. I say, in order to get column C shown on page 168, you made an analysis of the removals of this 1,590,452 feet that you just mentioned?

A. No.

Q. Well, what did you use to get that?

A. Oh, I subtracted column B from column A.

Q. Look at page 168. Do you have it?

A. I have it now.

Q. Now, your column C is based on mortality curve 2?

A. That is correct.

Q. Now, isn't mortality curve 2 based on this 1,590,452 feet of removals?

A. No.

Q. Well, what is your mortality curve 2 based on?

A. Based on the sum of columns B and D.

Q. Well, can you explain so that the jury can understand it, and maybe I will understand it while you are doing it, what you have got in columns B and D?

A. It is clearly set out on page 79 of Exhibit 42.

Q. Just like this other thing was clearly set out?

[fol. 2214] A. That is, as most of it was clearly set out. Column B, feet of three inch equivalent diameter pipe removal in major removals. Column D, feet of three inch equivalent diameter pipe replaced in major replacements caused by changed operating conditions.

Q. Now, you are talking about the tabulation on page 79?

A. Yes, sir, because that is the one that sets all this out.

Q. As shown in this table, the biggest replacement occurred in 1923; is that right?

A. You mean in this column B?

Q. Yes, shown as a major removal?

A. Yes, that is right.

Q. And the next largest in 1928?

A. That is right.

Q. And there was a large one in 1912?

A. That is right.

Q. All these that we have mentioned so far are in excess of two hundred thousand feet; is that correct?

A. Two hundred thousand feet equivalent three inch diameter pipe.

Q. Well, what is the average per year?

A. I don't know.

Q. In round numbers it is around seventy thousand feet of three inch equivalent?

A. Yes, but I didn't make my calculation on the arithmetical average. I took the average weighted age.

Q. Well, now, just to get back to your theory here, Mr. [fol. 2215] Connor, what do the major removals have to do with the age of property?

A. Nothing in particular.

Q. Why was it necessary to state the major removals in connection with finding a depreciated amount as an annual charge?

A. Well, to get some idea of how those things actually behave.

Q. Now, since these removals occur in varying amounts by years, wouldn't you have to reduce it to some common basis and find an average?

A. No, I don't think so. What you have got to determine is the probable rate on those occurrences, if you can. I admit that it is difficult for anything to occur with any great degree of regularity, but I did the most logical thing I could.

Q. Well, now, you show in 1912 two hundred thousand feet removed and in 1933 only 13,700 feet removed, in spite of the fact that the whole system in 1933 was a great deal older than it was back in 1912. In order to secure some fair sort of conclusions wouldn't you have to average up the years?

A. No. I have taken the age the pipe had been in service. In 1934 there is going to be one million five hundred thousand feet of three-inch equivalent diameter pipe replaced and removed.

Q. What line is that going to be on—Line H?

A. Line H and Line K-A.

Q. Well, now, that is an unusual circumstance, isn't it?

[fol. 2216] A. Why, no, it is not unusual in the natural gas business; it is a thing you have to anticipate and provide for.

Q. You mean there is nothing unusual in the removal of one million five hundred thousand feet of pipe in one year?

A. No, sir. We removed 2,890,000 feet in 1917.

Q. Have you done it any other year?

A. I think the possibility is that these removals will continue. Furthermore, Line H is a removal of a removal.

Q. Now, still on page 168, you have got another addition for the major rehabilitations as shown in Column F of two per cent?

A. Two-tenths of one per cent.

Q. Two-tenths of one per cent. Now, to get that figure you used an average, didn't you?

A. I divided the gross expenditures by the miles of service that the pipe had had.

Q. So that the result that you reached gives you an average per service year, does it not?

A. That is correct, expressed in terms of dollars per foot.

Q. Now, if you used an average on this, why couldn't you use an average on the other?

A. Well, I don't think the two things are comparable at all.

Q. Is that the only reason you can give?

A. It is about as good a reason as I can give, yes.

Q. Just by changing the name from rehabilitation to removal, or vice versa, you get a different method of doing it?

A. No; I didn't change the name. The operation is entirely different. It comes about by reason of different conditions.

[fol. 2217] Q. All right, going to the next classification of property we find that you have estimated 6.216 per cent for compressor station property. Will you turn to the part of your exhibit that shows this rate?

A. That is found, Mr. Fitzhugh, in part 4, beginning at page 236.

Q. Where do you finally arrive at the final per cent?

A. Where do I what?

Q. Page 255, I guess, isn't it?

A. Yes, that's correct, Mr. Fitzhugh.

Q. On page 255 in the tabulation on the main line stations, you show the annual rate for current replacements of one per cent. Is that an estimate or a calculation of some sort?

A. That is an estimate based upon an analysis of the actual charges to the depreciation reserve account, or at least fixed in conformity with the conclusions that I reached from an analysis of the actual charges to the depreciation reserve account for those items.

Q. Do you have that analysis with you?

A. I have the result of it, yes.

Q. Can you tell by looking at your analysis, just how the replacements of the piping for water supply or the equipment for cooling towers or water storage tanks was handled?

A. Yes.

Q. How was it handled?

A. It was handled by charges to the reserve account.

Q. Do you have any sheets that show those charges?

[fol. 2218] A. Yes.

Q. Will you read from those and show how replacements of equipment of this sort were handled?

A. Those are charges to the reserve for depreciation. Is that clear?

Q. You mean you took off the amount you show in your exhibit from the books of the company?

A. No, I did not.

Q. Where did you get that?

A. I got them from the books of the company, but they do not appear in my exhibit.

Q. Do you have that underlying data with you?

A. Yes, it is right here before me.

Q. Well, read from it.

A. I am getting ready to read from it now. We will take the item of repairs to cooling coils, charges to the depreciation reserve account in 1929, \$12,027.04. Painting class A and class B structures, charges to depreciation reserve account for that item in 1929 amounted to \$23,420.36. Major repairs to main units for that same year of 1929 were \$6,702.96; and for 1930 charges for the same thing amounted to \$15,822.67.

Q. Do you have any segregation there for the main line stations?

A. Oh, yes.

Q. Well, turn to page 236. Which of the items detailed on that page would cooling coils come under?

A. Cooling coils would come under the plant piping.

[fol. 2219] Q. Now on that class of property, you estimate a twenty year life, do you not?

A. Yes.

Q. In other words, you figure that cooling coils will be replaced every 20 years; is that right?

A. No, they will be replaced much more often than that, I believe.

Q. But that goes into the annual rate of reserve of five per cent you have set up here?

A. That is right, on the average. Some of the items would last much longer than that, and some would last only a very short period of time.

Q. Now, after finding out how the cooling coils were being handled on the books and what the amounts as shown on the books were, how did you let that enter into this finding of five per cent?

A. I didn't. At least, I did not let it enter into it.

Q. Why.

A. Because that was an entirely different matter.

Q. These cooling coils would have been included in the one per cent annual rate for current replacements as shown on page 255, would they not?

A. No. Those are current replacements of parts of units, and not replacements of the unit as a whole.

Q. Well, didn't you just read that you used those to get these annual percentages?

[fol. 2220] A. Yes, but you must not have listened to what I said, Mr. Fitzhugh; I said repairs to cooling coils, and not replacements of cooling coils.

Q. What is the difference between repairs and replacements, in the matter of cooling coils?

A. There's all the difference in the world. If you make a replacement of a unit, that is one thing; and if you repair it that is another thing; when you replace something, you don't repair it; you replace it.

Q. When you replace these coils, Mr. Connor; when they get out of fix, don't you replace them 100 per cent?

A. No.

Q. What are these coils you are talking about, Mr. Connor; how big are they?

A. I don't know, Mr. Fitzhugh.

Q. Have you ever seen one of them?

A. Hundreds of times.

Q. You know what you are talking about, don't you?

A. Yes; oh yes.

Q. Is the pipe a very large pipe?

A. No; the piping is not very large pipe.

Q. When the pipe in the cooling coils gets bad, you don't take a soldering iron and go out and fix them, do you?

A. No, but you repair them. The item of repairs to cooling coils is a clear-cut accounting description of what is going to be done. If they are going to be replaced—

[fol. 2221] Q. At any rate, the way you have handled cooling coils, just for example, you have included here then, one per cent for repairs?

A. That is right.

Q. And five per cent for replacements?

A. That is correct.

Q. And you have, in a like manner, you have done the same thing for every other class of equipment you have listed on page 246, have you not?

A. Yes, that is correct.

Q. Now, of this per cent that you apply to compressor station property of 6.216 per cent, what was the part that you used for field stations?

A. 4.5447, being the weighted per cent derived by multiplying 66.53 per cent, which represented the proportionate part of the reproduction cost of compressor stations, of the field stations, times the rate determined for the field stations, which was 6.831 per cent; and multiplying the 66.53 per cent by 6.831 per cent, I get 4.5447 per cent, which represents the weighted proportion of the total annual reserve required for compressor stations represented by the reserve required for the field stations.

Q. Of this 6.831 per cent, what part is for removals of the field stations?

Mr. Griffith: Do you refer to removals of units, or a station as a whole, Mr. Fitzhugh?

Q. Well, probably it would be both; the removal of the station——

[fol. 2222] Mr. Griffith: Well, I mean did you mean that kind of a removal?

Q. Yes.

A. The manner in which that is developed is fully set out on pages 247, 248, 249, 250 and 251 of Exhibit 42. I determined the weighted age of the units and the rate at which the removals had been made, expressed as a per cent per year of weighted age. I then developed a curve, or a straight line slope, which would develop a replacement curve which would equal the indicated rate of replacement at the weighted age period, and that uniform slope was at the rate of 3.3 per cent per annum. After giving effect to the removals of removals calculated over a period of years, the result is shown on page 249.

Q. Do you show in your exhibit the weighted age of the horsepower now installed?

A. I do, yes.

Q. On page what?

A. The tabulation is on page 265.

Q. Now, in finding your weighted age for compressor stations, how did you handle the Eastland station, which was installed by the Texas Company in 1925; the Moran station, installed by The Texas Company in 1918; the Park Station, installed by The Texas Company in 1923; the Pueblo station, installed by Moody-Dyer Corporation in 1927; the Winniewood station, installed by Ouichita Valley Gas Company in 1926; and the Tiffin station installed by [fol. 2223] Southern Gasoline Corporation in 1923?

A. The compressing department made inquiries of each of the companies from which Lone Star Gas Company had purchased compressing stations and ascertained the original date at which these stations were installed and placed them in the proper age classification with reference to the proper service life.

Q. These date- I just read are the dates when the stations were originally installed, and not the dates when purchased by the Lone Star Gas Company?

A. No, the weighted age was determined there. The actual original weighted ages were attempted to be placed on the stations. However, I do not think that would be material because the question of those stations in the service of Lone Star Gas Company with reference to their removal might be affected largely by the manner in which they are operated by Lone Star Gas Company rather than by somebody else.

Q. But you have used their total life from the time they were originally installed, even if installed by some one other than the Lone Star Gas Company?

A. That is correct. We endeavored very carefully to get that information. We phoned all over the State of Texas and the state of Oklahoma trying to get definite information concerning that point.

Q. Now, in considering your removal rates, you have taken into consideration the Moran station, have you not?

A. Oh, yes.

Q. Now that was a station which you purchased along [fol. 2224] with some lines that you bought from The Texas Company, wasn't it?

A. Yes, that's right.

Q. Now, while the Moran station was necessary to the efficient operation of the lines owned by The Texas Company while owned by The Texas Company, there was no need at all for the Moran station after it became a part of the Lone Star Gas Company, was there?

A. No particularly valuable service could be developed from it; that is correct.

Q. And the Moran station was dismantled right after its purchase and it is now out of commission, isn't it?

A. I do not believe the Moran station is now operating, and I do not believe it is included in Mr. Biddison's appraisal.

Q. And the same applies to the Park station, which was also purchased along with lines acquired from The Texas Company?

A. I will have to make reference to these specific stations, Mr. Fitzhugh. It is clearly set out in the report just what happened to each of these stations, and in connection with the Park station, it says that it was retired in 1929, due to the depleted gas supply; this station was operated one month after it was purchased. Engines were removed to the Sipe Springs compressing station.

Q. You have included the Moran station and the Park station in your study of the removals, though, have you not?

A. That is correct.

Q. Now, Mr. Connor, doesn't it seem unfair to you to include in any study made to find the amount of removals or [fol. 2225] replacements that will take place in the future, two stations that have been junked, simply because they happened to be purchased along with another property separately operated, and which upon the consolidation had no service at all in the combined property's operation?

A. That might be true, Mr. Fitzhugh, if I did not know that even after giving consideration or taking into account those two stations which you mentioned and which are not large relatively taken in connection with all the stations of the company, that the removals of compressor stations in the future of Lone Star Gas Company's operations are going to be materially greater than those which I have indicated in this study.

Q. Is it your opinion, Mr. Connor, that there will be a number of these compressor stations that have to be abandoned and removed, as in the case of the Moran and Park stations, in the near future?

A. No, they will not be abandoned.

Q. Well, they will be moved, won't they?

A. That is right, and the cost of removing them will be a charge to the depreciation reserve account. They will be set up in another location and they will be just as good when set up in another location as they are today. If you would come along a year from now and make a reproduction cost estimate of this property, you would probably find the same number of horse power in service, possibly in another or in different locations, with no additions to capital than you found in 1932.

[fol. 2226] Q. When a compressor station is moved to another site, Mr. Connor, the foundations for the compressor engines, forming a substantial cost in themselves, are left behind, aren't they?

A. That is correct.

Q. And all the piping and underground equipment, so far as pipe is concerned, are left behind also, are they not?

A. Some are salvaged and some are lost.

Q. Nevertheless, notwithstanding the fact that there may be some compressor stations now in existence that will have to be moved in the near future, you are familiar with the fact, are you not, Mr. Connor, that Mr. Biddison did not take that into consideration in the finding of his per cent condition on compressor stations?

A. I am, and I agree with him absolutely.

Q. Now the next per cent for annual rate of reserve accrual which you find is 3.3 as applied to general office structures. That appears in your text on page 285, doesn't it?

A. Well, we skipped the telephone line, Mr. Fitzhugh.

Q. No, I am talking about the 3.3 per cent for the general office structure.

A. I beg your pardon; I was looking at one book and you were looking at another.

Q. How did you figure out the repairs on the building?

A. I made an estimate that it would be necessary in the future on the average to spend one per cent of the reproduction cost of the structure for current repairs, chargeable to the depreciation reserve account.

[fol. 2227] Q. Do you know what the actual repairs to the building were in 1932?

A. No, I don't.

Q. Do you know it for 1933?

A. I may have it here, but I don't know offhand. The average per year for the past five years has been approximately \$2100.00 per year.

Q. The amount that you actually allow in your calculation, though, as shown on page 286, instead of \$2100.00 is \$4,821.57, is it not?

A. No.

Q. What is that amount then?

A. Yes, that is correct; but the rate is one-and one-half per cent; and not one per cent as you indicated.

[fol. 2228] Q. Where did you get, Mr. Connor, on page 286, the probable life years for the different items entering into General Office structure?

A. Most of those, Mr. Fitzhugh, were taken from the rates prescribed by the Bureau of Internal Revenue for similar property on Income Tax depreciation deductions.

Q. You mean the Bureau of Internal Revenue puts out a handbook of some sort?

A. Yes, sir.

Q. And you copied these probable life years item *item* by item from that compilation?

A. That is correct.

Q. So this does not represent your engineering judgment in any sense of the word, does it?

A. Yes, to a certain extent, because several of the items were not included—I don't remember just which ones; and I have been engaged in the matter of constructing building, operating buildings, and owning buildings over a period of twenty or more years, and I have had some experience in the matter of the life of items of this kind. However, as I previously stated, my judgment was influenced by the recommendations of the Department.

Q. And you have estimated, have you not, that the whole cost of the General Office Structure would be retired in forty years, using a 5 per cent annuity basis?

[fol. 2229] A. That is correct.

Q. And in addition to that, you have allowed for the replacing of elevators every twenty years?

A. Yes.

Q. And the Venetian Blinds every ten years?

A. That is right.

Q. Now, if you are going to retire the total value of this building in forty years by some sort of an annuity calculation, you should deduct from that amount the value of the elevators, shouldn't you, which are going to be replaced in twenty years?

A. I don't know, Mr. Fitzhugh, that the elevators would be replaced in twenty years. The figure indicates that the average cost of keeping those elevators in operation and making such replacements during the life of those elevators as would be necessary, would be equivalent to the annual sum represented by the application of five per cent, rather than to assume that every twenty years you would take out an elevator.

Q. In the allowance of one and a half per cent that you made in your depreciation rate for removals and changes, didn't you include the repairs to elevators in that?

A. There is a charge of \$950 for the replacement of a generator.

Q. Well, that is part of the elevator equipment?

A. That is a replacement of a piece of elevator equipment [fol. 2230] ment; but the figure I used and gave you of \$2100 approximately, which included that, did not determine my estimate of the cost of removals and changes and repairs to the building as a whole, for the reason that the period of time covered by those actual expenses, Mr. Fitzhugh, was the period of time when that building was brand new.

Q. And in addition to all these other provisions you have made, you have put down an additional one per cent for decline in per cent of new condition?

A. Yes; because the figures, as disclosed by Mr. Biddison's estimate, shows that on the average the building, along with all the other property, has declined uniformly at that rate, based upon its weighted age. The amortization accrual, however, takes that factor into account; and, also, I think provides for a probable salvage value of 15 per cent, which is something I don't think would be possible in the case of the office building.

Q. Just how did you arrive at that .8 per cent for the retirement of all costs on a forty-year basis, 5 per cent annuity?

A. That is just an estimate. I don't believe there is an office building in Dallas today forty years old.

Q. How did you get the rate of .8 per cent?

A. That is the annual sum, which compounded at 5 per cent annually, would equal the 100 per cent cost of the building, as contrasted with the 2.5 per cent straight line fund [fol. 2231] accrual.

Q. Does that take into consideration salvage?

A. I think it does. I may be wrong, but I think that it does.

Q. It should, should it not?

A. I don't think there would be any net salvage on a building of that kind. I think it would cost you more to tear it down than you could get out of it. No; I have made no provision for net salvage on the office building at the end of forty years.

Q. All right. Show how this method of yours works out on the elevators, assuming that they have a life of twenty years, you have included a 5 per cent annual allowance to take care of the replacement every twenty years?

A. That is right, on the average; that might be made by replacements like the \$950 charge for elevators.

Q. But every twenty years you will get back the full value of those elevators?

A. Yes; and will probably be out that much in connection with the elevators.

Q. Of course, you are supposed to be out that much, or it would not be a proper charge?

A. That is correct.

Q. Theoretical. In addition to that, you are going to receive at the end of forty years one hundred per cent of the value of the elevators?

[fol. 2232] A. That is right. You might be out 100 per cent of those elevators every twenty years, and still have the same elevators at the end of the forty years.

Q. In addition to that, you are going to receive one per cent per annum, or forty per cent of their value in forty years, for the decline in per cent of condition?

A. Absolutely not.

Q. At that rate you will receive one per cent now, will you not?

A. That is correct.

Q. In addition to all of this, you are going to charge the repairs at 1.5 per cent per annum?

A. On the average, throughout the life of the building, yes.

Q. And besides all this, the actual history of the Company is that the cost of maintaining these elevators is charged to Operating Expenses and not to Depreciation Reserve?

A. That is not correct.

Q. Well, how about—if I am mistaken in the matter of elevators—how about in the matter of maintenance of Linoleum, Venetian Blinds, Lighting System Wiring and Fixtures, Heating System and Plumbing, and so forth—aren't all those charged currently as charges to Maintenance and not to depreciation reserve?

A. Repairs to electric fans charged to depreciation reserve; replacing cables charged to depreciation reserve—

[fol. 2233] Q. What kind of cables are those?

A. I presume cables for the dictagraphs; replace burner on boiler charged to depreciation reserve; replace generator on elevator charged to depreciation reserve.

Q. What else have you got?

A. That is all.

Q. Those are things that enter into this \$2100 per year?

A. That is right—in a practically new building.

Q. Now, the linoleum is being replaced in a practically new building, is it not?

A. I don't think they have replaced any yet.

Q. Not any at all?

A. Not that I know of.

Q. How about Venetian Blinds?

A. I don't think they have replaced any yet.

Q. Not a single one?

A. They have not been in service but four or five years.

Q. They only have a life of eight years and you have seventeen thousand dollars worth of those blinds?

A. And the time is coming around when we are going to have to replace them. That is pretty evident from the looks of those in the office I am in.

Q. Did you use the same method on the Other General Structures?

A. Very similar, yes, sir. I gave the life of the Other General Structures somewhat less than I did the General Office Building.

[fol. 2234] Q. Now, on The Other General Structures what was your allowance for repairs?

A. One per cent per annum.

Q. That is an estimate, isn't it?

A. That is absolutely an estimate.

Q. Now, the repairs on this class of property are currently, and have been in the past, charged to Operating Expenses, have they not, as Maintenance Charges?

A. I don't know.

Q. Can't you look in your notes and find out?

A. No, sir.

Q. Well now, you made the study on the other items of property, such as General Office. Why didn't you find out about this?

A. Well, sir, I don't know. I made a lot of studies in connection with the property of Lone Star Gas Company, and there may be one or two things I overlooked.

Q. Just one or two?

A. That's right.

Q. You are familiar with the statement in the Railroad Commission's order with reference to Other General Structures, are you not?

A. With reference to depreciation reserve?

Q. Current replacements.

A. I have read the order carefully, and I heard Mr. Freese's testimony in Fort Worth.

[fol. 2235] Q. The statement in the order appearing on page 67 states: "Mr. Connor amortizes Other General Structures over a period of 25 years on a 7 per cent sinking fund basis resulting in an annuity of 1.58 per cent. An annuity of 1.823 per cent is necessary on a 6 per cent sinking fund basis." In other words, they increased the allowance that you had given, did they not?

A. No; they decreased it.

Q. The accrual was increased from 1.58 per cent to 1.82 per cent, was it not—isn't that an increase?

A. I don't see how it works out.

Q. Isn't a six per cent allowance on the sinking fund basis a more liberal allowance so far as the Company is concerned than a seven per cent sinking fund rate?

A. Yes; that is right; that is correct.

Q. That accounts for the increased rate, doesn't it? Now, this statement appears: "Alterations, repairs, current renewals, etc., are charged to Operating Expenses. We find an annual rate of 1.823 per cent." After noticing that sentence in the Railroad Commission's order, Mr. Connor, you still did not make any effort to find out how your Company handled these charges?

A. That is correct. I did not develop my exhibit in this case by any reference to the Commission's order whatsoever.

[fol. 2236] Q. And notwithstanding you were put on notice by this statement in the Commission's order, you, nevertheless, without making any investigation, assumed for the purposes of your computation that all charges were made to depreciation reserve?

A. No; I didn't imagine all charges were made to depreciation reserve; but I imagine there will be sufficient charges made to depreciation reserve to justify the inclusion of one per cent for such items.

Q. I am talking about charges for alterations, repairs, and current renewals, as mentioned in the Commission's order?

A. I did not base this estimate of mine on anything found in the Commission's order—far from it.

Q. Now, all right. On General Office Furniture and Fixtures, and Other General Furniture and Fixtures, you used 9.7 per cent per annum. In other words, you figure every year that 9.7 per cent will have to be put aside to keep this property in a good state of repair?

A. And replace the units when they come to the end of their useful life.

Q. Did this figure likewise come from the Bureau of Internal Revenue?

A. Some parts of it did, and some parts are based upon the advice of department heads of Lone Star Gas Company who had charge of—responsible charge of the various machines—typewriters, and so forth, calculating machines, which were used in their departments.

[fols. 2237-2238] Q. Where did you get the rate to use on those hand-made draperies, oriental rugs, and that sort of thing?

A. I don't know, Mr. Fitzhugh.

[fol. 2239] Q. On the General Shop Equipment you use a flat ten per cent per annum?

A. That is correct.

Q. That is an estimate, is it not?

A. That is absolutely correct.

Q. Is there any underlying data in your exhibit, about that?

A. No, except that I have had considerable experience with shop equipment; I was a contractor for about nine years, and it is my opinion that ten year life for equipment of this kind is approximately correct.

Q. Would you say the lathes and machines of that type owned by the Company and included as part of its General Shop Equipment, only have a ten year life?

A. No, I would say that they have a longer life than ten years.

Q. This is the highest per cent for annual rate of reserve accrual of any class of property included in your appraisal, is it not?

A. That is correct.

[fol. 2240] Q. Now, on your Telephone Equipment you have used 3.340 per cent. How was that found?

A. It is set out in detail, Mr. Fitzhugh, on pages 278 to 284, inclusive. I use an average life for treated poles of approximately ten years; I assume that 50 per cent of the poles will be salvaged when removed, and I assume that 50 per cent of the replacements made will be charged to operating expenses.

Q. In finding the life of poles you used a study made on 248,707 treated poles in Germany, did you not?

A. That is correct. I think that is perhaps the most complete study of that kind that is available.

Q. Hasn't the American Telephone and Telegraph Company right here in Texas made studies of the life of more poles, under conditions as they actually exist here in Texas, which are available to you at the present time?

A. No, I don't know that they are.

Q. Well, you know those studies have been made, don't you?

A. I imagine that the Bell Telephone Company keeps a very complete record of all of their property.

Q. Well, Mr. Connor, why would you go and take the study of some poles that were used up and exhausted in service in Germany, rather than take the poles that were [fol. 2241] used up and exhausted in service under Texas conditions?

A. Well, I don't think the service life of a treated pole will be very different in one place as against another. They will probably last a little longer in—I don't think they would suffer from the loss of their protection as much in Germany as they would in Texas.

Q. You don't think that differences in wood or climate would have anything to do with the life of poles?

A. Not materially; in fact, I gave so many other considerations to the determination, that the actual amount set up by the mortality studies could hardly be recognized when it was finally used.

Q. Now, then, on page 2 of your Exhibit 41, after going through all these classes of property and getting the per cent for each class, you find an annual rate of reserve accrual of .828 per cent to be applied to \$42,332,671.62 to amortize 100 per cent that property value?

A. That is correct.

Q. What is the life you have estimated that property to have, to use the .828 per cent amortization factor?

A. I have estimated forty years. I think that discussion is set out in detail in the exhibit.

Q. The weighted age of the property at the present time is something in excess of ten years, is it not?

[fol. 2242] A. No, I wouldn't say so.

Q. What would you say is the correct figure?

A. I would say about seven or eight years.

Q. Well, that is what you testified to in the previous hearing.

A. No, I testified about the age of the main lines, I think. I never testified about the weighted age of the property as a whole, because I have never made any exact determination of that factor.

Q. But you would say it is around seven or eight years?

A. That is correct.

Q. In other words, the life of a property of this sort—the total life would be between forty-seven and fifty years?

A. That is something that no person could anticipate. I have made an estimate which I think is a reasonable estimate to make, in view of all of the factors controlling the probable ultimate life of the Lone Star Gas Company. I think it would be improvident and improper not to make such a provision.

Q. Well, now, suppose that thirty years from now, Mr. Connor, another rate investigation should come up; in the meantime you would have had returned to you through this amortization allowance practically three-fourths of the value of your property?

[fol. 2243] A. Oh, no, you wouldn't, Mr. Fitzhugh.

Q. Why wouldn't you?

A. Because amortization accruals of that kind don't work out that way.

Q. Well, you would have had a substantial part any way—over half, would you not?

A. On a five per cent basis?

Q. Well, on the 8.28—the point 828 per cent factor you use on page 2, wouldn't you?

A. Well, I have calculated it on a forty year basis, but I will give you an indication of how badly off a person might be on what it would be, say, on a fifty year basis. Now, if at the end of twenty-five years—

Q. Wait a minute, Mr. Connor——

A. I am just giving you an example——

Q. Well, I don't care to go into that.

A. I would like to explain it to you.

Q. What I am asking you now is, what it would be at the end of thirty years, when there would be only ten years of the life of the property left——

A. You said about three-fourths, didn't you?

Q. Well, I said three-fourths, but——

A. Well, I said it wouldn't be three-fourths.

[fol. 2244] Q. I don't care what the amount would be, but there would be a substantial sum returned, would there not?

A. Yes; but in the meanwhile the property might have been lost and the Company not be in position to have a rate case thirty years from now, and then that situation is equally as possible and equally as probable as the assumption you make, that there might be a rate case at the end of thirty years.

Q. Well, just assume for the purpose of this law suit that there is another gas case that comes up in thirty years. In the meantime you will have received a depreciation allowance that will keep your property in good operating condition; you will also have gotten a rate of return on your property all of that time based on your property values, and you will have had returned through this amortization factor applied to the value of depreciable property, or rather to the property subject to amortization you will have had returned the value of that property. Now, then, when this hypothetical case comes up thirty years from now, you will be back in court again, won't you, Mr. Connor, asking for amortization of the full value of the property?

A. No, and as a matter of fact throughout all of that time and until such time as the amortization accrual is complete and fulfilled the owners of this property would [fol. 2245] never enjoy the use or benefit of one penny of that accrual.

Q. Well, now, Mr. Connor, if the property is approximately of the weighted age of eight years at the present time, why don't you consider that during those eight years there has been returned a portion of the investment to the

owners on which the rate-payers are entitled to a credit now——

A. Because——

Q. Or for which the rate-payers are entitled to credit?

A. For the simple reason that the determination of what the reserve accruals for this Company for the current and future requirements of this Company can not be properly supplemented by any withdrawals from an actual or an assumed credit balance existing at the date of this inquiry.

Q. At any rate, Mr. Connor, you come out with the amount of \$3,465,123.36, the amount which you say must be provided annually during the future years to take care of the wearing out of property in service?

A. Oh, no.

Q. Well, you say it must be provided for some reason.

A. Yes, but there are a great many more reasons.

Q. What besides wearing out of property in service does that cover?

[fol. 2246] A. Costs of replacements, the losses in value, which usually develop in this property in the future years of its use, and the ultimate loss which will come at the time when the gas reserves available to this Company shall have been depleted.

Q. Does it cover the obsolescence of property due to improved methods?

A. I have given no consideration to that factor. I believe that the factor of obsolescence should be accrued after the obsolescence has taken place or has been realized.

Q. It does include all removals that will be made for public reasons or governmental reasons, isn't that right?

A. That is correct, and changed operating conditions, as well.

Q. All right. We come now to your exhibits on Rate of Return. Now, Mr. Connor, suppose that the rate-making authorities should adopt 100 per cent upon your theories as applied to the regulation of your Company.

A. You mean that company that I am retained by?

Q. Yes, sir, the Lone Star Gas Company. Suppose that they adopted the \$75,000,000.00 rate base as proposed in Exhibit 28.

[fol. 2247] A. Mr. Fitzhugh, I don't believe there is a rate base proposed in Exhibit 28.

Q. Well, the value of property as shown by that exhibit. Well, in round figures it is around \$75,000,000.00, isn't it?

A. I think Mr. Biddison's reproduction cost new less depreciation was approximately \$69,800,000.00.

Q. All right. Now, suppose that that should be adopted as the value of the Company's property. If your theory is adopted, you would be entitled to earn ten per cent upon the value of that property, in addition to getting the \$3,465,123.36 per year for depreciation requirements, which, incidentally, would include an allowance to retire the value of all property which you say should be amortized in forty years, plus whatever is finally determined to be the proper operating expenses. Now, all those things would be allowed, would they not?

A. Yes, and following my theory, as you suggest, Mr. Fitzhugh, and the findings of my theory, the idea I have attempted to set out is that the Company should not be deprived of the right to earn ten per cent upon the fair value of its property engaged in the transportation of natural gas.

[fol. 2248] Q. Well, granted that the traffic will bear all this cost, you think as a matter of right the company ought to have that, do you not?

A. No, not necessarily. I think the company ought to have the right to earn it if it can do so with rates that are reasonable.

Q. Well, now, if your theory is adhered to, Mr. Connor, the total value of the property is returned, along with the return on the property all the time, along with an allowance that will keep the property in as good condition from an operating standpoint as it is now, along with an allowance for return on the value of the gas reserves at the time they are used up, why is it you say the gas business is a hazardous business?

A. You mention one item which would, as evidenced by the order of the Commission, the language of the Commission's order, be interpreted to remove the hazards of the natural gas business, and that is the allowance of an amortization accrual which at the end of a given period of time might return the value of the property to the owners. I can not conceive of how the allowance of an amortization accrual has anything to do with the hazards of the natural gas business. The hazards of the natural gas business grow out of the fact that a natural gas pipe line and production company is engaged in the most hazardous of mining ventures. Certainly if you could insure the return of the

property at any given time, then you would remove the [fol. 2249] hazards of the natural gas business; but to lay a goal forty years in the future, only to be attained under a series of circumstances which will be favorable in every event for the culmination of that proposition, certainly does not remove the hazards of the natural gas business, that the natural gas business might play out in twenty years or fifteen years, and there is no way to know nor to prevent such a catastrophe by merely having an amortization accrual of something less than one per cent per annum.

Q. Well, Mr. Dunn estimated the withdrawals of gas that would take place from the present gas reserves of the company and when Mr. Hulcy found the value of those withdrawals to get the total value of the gas reserves all the hazards of the withdrawal of gas and the uncertainty of a gas supply were taken into consideration in figuring that value, were they not?

A. No; I think hazards have arisen since that report was made that, if there is not something done about it, will create a situation which will be very serious. I refer to the wastage of gas in the Panhandle area.

Q. "Hazard", as you use the word in talking about the rate of return and the hazards of the business, refers to the uncertainty in dollars and cents of the investment in the company's property, did it not?

A. Yes, together with the attitude of the public mind with reference to the natural gas business. Everybody views it as a hazardous business, and for that reason it is more difficult for a natural gas enterprise to secure funds [fol. 2250] at reasonable rates than is the case with any other public utility.

Q. Now, when you found back in the overheads the total value or going value at \$7,792,888.00 you set up as one of the reasons why the company was allowed this going value the fact that they had a large number of customers and had a pipe line system in operation and had an advantageous gas supply substantially in excess of the present maximum requirements of the market, and you assumed that this would continue for a long period of time, did you not?

A. I don't think there is a statement in there as to how long the situation will continue.

Q. Well, nowhere in finding the amount of going value did you consider any risks of the business, did you?

A. No. I made an estimate of cost.

Q. As a matter of fact you found that, being a going concern, it was worth a whole lot more money?

A. I said it would be worth more with a business that is complete and ready to do business than one without customers.

Q. And without a gas supply?

A. A gas supply is a thing of importance, but Lone Star Gas Company has today a gas supply which is in excess of the current maximum demand of its markets; but that gas supply over a twenty year period which is in sight and [fol. 2251] which Mr. Dunn estimates will be recovered will be only a small per cent of the total gas required to fulfill the market requirements of Lone Star Gas Company over twenty year period.

Q. All right. Now, refer to your exhibit of current quotations of bonds and other senior securities of natural gas, manufactured gas and electric utilities.

Mr. Fitzhugh: What is the number of that exhibit?

Mr. Griffith: It is No. 43.

Q. Now, all the securities you have listed, I believe you say, you took from Fitch's Manual?

A. As of the date indicated.

Q. What is an over-the-counter sale?

A. That is a sale which is not made by the means of the medium regularly established stock exchange.

Q. You are familiar with the fact, are you not, Mr. Connor, that Fitch's Manual does not include any over-the-counter sales?

A. That is correct.

Q. But includes only sales made on the exchanges?

A. That is right.

Q. Fitch's, therefore, reflects only a part of the market securities?

A. Yes, and this exhibit only reflects a part of the securities which might be ascribed to the various classes of utilities [fol. 2252] ties set out.

Q. Now, the first bond that you have listed is the Allegheny Gas Corporation first and collateral sinking fund six and one-half, w-w. What does that mean?

A. With warrants.

Q. With warrants. In other words, this bond represents a bond secured by collateral stock, doesn't it?

A. I don't know what the collateral behind the issue is, but it is a first mortgage.

Q. Why, haven't you looked up this issue?

A. No.

Q. Don't you know even what the bond represents, whether it a mortgage or whether it is a collateral trust?

A. It is a first and sinking fund.

Q. That means it is simply the first of a number of issues?

A. That is correct. I paid no attention to that issue, because the interest has defaulted and is without interest.

Q. Does this bond represent a mortgage?

A. It is secured by collateral as distinguished from a mortgage on the property itself.

Q. All right. It has got nothing behind it except stock?

A. That might be collateral which is behind the issue.

Q. That notation which stands for "with warrant", you say, means that there is attached to this bond a slip of paper or an option which entitles the holder of the bond [fol. 2253] to cash in, probably, at some future time a warrant in exchange for shares in stock?

A. That is correct.

Q. Now, is there any connection between this bond and the first mortgage bonds that you included as a method of raising funds for the reconstruction of the Lone Star Gas Company in your hypothetical set-up?

A. Absolutely not, no.

Q. Now, will you pick out anywhere in this sheet of yours any gas utility bond which corresponds in some measure to the set-up of the Lone Star Gas Company and pick out, if you will, some first mortgage bond of a pipe line company?

A. What do you mean, to conform to the situation of Lone Star Gas Company? Lone Star Gas Company has no bonds.

Q. I know, but you have assumed that reconstruction will take place and will be based on the sale of first mortgage bonds and preferred stock, have you not?

A. Yes, sir.

Q. Well, now, to test the validity of the assumption you made in that respect, pick out some bond that corresponds to the type of bond you think Lone Star Gas Company would

A. El Paso Natural Gas Company first and then Oklahoma—

Q. Wait a moment—take them one at a time. What is the total value of El Paso Natural Gas Company property? [fol. 2254] A. I don't know.

Q. What was it at the time this bond issue was put out?

A. I don't know. I have not looked up the equity behind the individual issues on these sheets. I am familiar with some of them in this territory.

Q. What were the El Paso Natural Gas Company's sinking fund six and a half, maturity date 1943, originally sold for?

A. I don't know what they were marketed for.

Q. You don't know whether they were sold at a discount or at a premium?

A. I am quite sure they were sold at a discount.

Q. How much?

A. I don't know.

Q. What was the amount of that issue?

A. I don't know.

Q. Do you know whether this represents a mortgage on the property?

A. It is so set out in Fitch's Manual as representing a first mortgage.

Q. Do you know what the amount of the mortgage is as compared with the actual value of the property?

A. No, I do not.

Q. Or what it was at the time the mortgage was placed on the property?

A. No, I do not.

Q. So you are not able to say, are you, Mr. Connor, [fol. 2255] whether the amount of the loan obtained by the El Paso Natural Gas Company was a large amount as compared to the value of the property or a small amount?

A. That is correct.

Q. Do you know anything about the earnings of the El Paso Natural Gas Company?

A. No, I do not.

Q. Are you familiar with the fact, Mr. Connor, that they built a line west from El Paso upon which they are losing considerable money?

A. No; I know nothing of the operations of the company.

Q. Well, is that a fact that would have a bearing upon

A. Oh, yes; every factor you have mentioned has a bearing upon the market value of the securities.

Q. As a matter of fact, Mr. Connor, is there any relationship at all between the market price of securities and the amount of interest rate that it would take to float a new loan on the organization of some new company?

A. I think that statement would be absolutely correct, Mr. Fitzhugh, if you took the situation and confined it to one issue of securities, but when you take practically every security of a certain type which is on the market of the United States of America and find that the yield on those securities is substantially higher than on practically all other similar securities issued by other types of public [fol. 2256] utilities, I think you are confronted with a very significant fact.

Q. Now, you talk about yield, Mr. Connor. Suppose you have a bond that is to be matured ten years from the first of this July; an interest payment came due the first of July and comes due every six months—that is, interest is payable semi-annually. The bond currently sells at 92.50, we will say. The coupon rate is six per cent. Can you tell what the yield to maturity of this bond is?

A. No, I can't. It is a calculation which would be made upon the present worth of a future payment.

Q. Well, now, Mr. Connor, you have got all through this exhibit yields to maturity calculated out here. Where did you get those?

A. They are calculated and set out in Fitch's Manual.

Q. Oh, you took those out of Fitch's?

A. Yes, sir; they are calculated yields to maturity from Fitch's Manual.

Q. You don't know how to calculate it yourself?

A. Yes; I know how to calculate it on any rate of interest. If I want to get a dollar ten years from now, and I have a fixed interest rate, it is easy to calculate the present worth of it—it isn't easy, but it can be done.

Q. As a matter of fact isn't it a fact that you could not find it except by the use of a discount table?

[fol. 2257] A. Well, I could calculate the present worth of future payments, which would give me the determination of what the yield to maturity would be worth.

Q. Well, now, Mr. Connor, do you think you know how to figure this? I want you to figure it, and I will bring in a bond table in the morning and compare it.

A. I have never figured one in my life, Mr. Fitzhugh.

Q. All right. Now, one of the securities you have listed here is debentures. What do you mean by "debentures"?

A. I mean a bond secured by the earnings of the company, with the right to take the earnings of the company for the payment of the bond.

Q. Well, a debenture does not have any collateral bond or mortgage or anything else, does it?

A. Now, I don't know. There may be other stipulations in the indenture which may make it very binding upon the corporation.

[fol. 2258] Q. An ordinary debenture as the term is ordinarily used, is an absolutely unsecured promise, just as a promissory note is, is it not?

A. Secured by the company's revenue.

Q. But no more secured than an ordinary promissory note, is it?

A. Yes, there would be certain stipulations covering the issue of those debentures relative to the way the revenues of the company might be used, which might not be in a promissory note.

Q. Suppose that the company defaulted on the payment of these debentures; what could the holders, the people who bought those bonds in the market, look to for the payment of the principal amount of the bonds?

A. I don't know, other than the current earnings of the company, unless there were certain specific provisions in the debentures themselves.

Q. Now, you have listed here, Lone Star Gas Corporation, fifteen year, S. F. debentures, fives. In other words, the Lone Star Gas Corporation has issued some bonds that are to run fifteen years, and mature in 1942. They are debenture bonds and bear a coupon rate of five per cent per annum, do they not?

A. That is correct.

Q. That S. F. means sinking fund?

A. Yes.

Q. And a sinking fund as included in your description simply means that some provision has been made to annually set aside some money so that at the end of fifteen [fol. 2259] years it will retire the issue?

A. That is correct.

Q. Now, what is the yield on the present market price of these bonds to maturity that you show?

A. 5.79 per cent.

Q. That is, if I should buy one of these bonds at the last sale price which you show on your sheet of 95, I would get on my investment only 5.79 per cent to maturity?

A. That is correct if the current market price of that security is approximately 95.

Q. Now, you have listed a lot of other securities in here besides gas company securities?

A. That's right.

Q. You have a bunch of electric companies. There is not much in common between the furnishing of electrical energy and gas as a commodity to gas consumers, except the fact that they are both subject to public regulation. Isn't that right?

A. No, there's a very great similarity between them in a great many respects.

Q. Just explain what the points of similarity are that you mean, Mr. Connor?

A. Between the transportation and the production of natural gas, and the production and transportation of electrical energy?

Q. Yes.

A. First I will point out or remind you of the dissimilarity which grows out of the fact that you can always build an electric plant wherever you want to build one, provided [fol. 2260] you have enough water to provide for your cooling and condensing, while of course the natural gas business must be determined, in its location, by a discovery and the existence of a natural resource. The production on the part of a power company corresponds very closely to the production of natural gas on the part of a natural gas company. The high voltage transmission lines of the light and power company correspond very closely to the high pressure gas transmission lines of the natural gas company. The compressors of the natural gas company correspond almost identically in their functions with the transformers—the step-up transformers of the power and light company. The regulators of the natural gas business which reduce the pressure of the gas for final distribution correspond to the step-down transformers of the electrical company. Each company has peaks, and each company must hold itself in readiness and keep in readiness facilities with which to meet instantaneous demands; and the only difference there is, that the electrical company can get paid

for the capital required to meet the demands on the basis of the demand rate, and the gas company can not do so.

Q. The kinds of units of property, though, that enter into the total properties of both companies are different, are they not?

A. Yes; but they have a very unusual similarity in the functions they perform.

Q. And the depreciation rates that would be applied to generators for instance, and electrical equipment, are en-[fol. 2261] tirely different from the depreciation rates you would apply to pipe lines, gas wells and so forth?

A. Oh, yes, that is quite true.

Q. The costs of operation are in no way related, are they?

A. No.

Q. If you knew the cost of operating a gas property worth Ten Million Dollars, that wouldn't be any criterion in judging what the costs of operation of an electric company worth Ten Million Dollars would be?

A. No, that is correct.

Q. The sales of gas companies are directly affected by temperature changes, are they not?

A. Some sales are and some are not.

Q. The domestic sales are?

A. That is correct.

Q. On the other hand, temperature has absolutely no effect at all on the amounts of electrical consumption for domestic consumers, has it?

A. Oh, yes, indirectly quite a bit, because they have much longer hours of use in the winter time.

Q. That has nothing to do with temperature; that is a seasonal proposition.

A. Well, they go together; they are both seasonal. Of course, directly, it has nothing to do with temperature; that is correct.

Q. All right.

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[fol. 2262] Q. Now, Mr. Connor, starting with the first bond listed in your exhibit, the Allegheney Gas Corporation, First and Collateral Sinking Fund Six and a half's; and going through the gas company bonds as listed through the rest of your exhibit, will you tell for each bond, where you can, the total value of the property at the time the bond

was issued; the type of the bond, and the mortgage or the security, the amount of which was put up for the bond?

A. I have a general familiarity and if I had an opportunity to refresh my memory, but I haven't those exact figures with me, as to the total assets of Lone Star Gas Corporation, Texas Cities Gas Company, Municipal Gas Company, County Gas Company and the Dallas Gas Company.

Q. Now those all are affiliated companies, aren't they?

A. That is correct, and perhaps would have a more direct bearing upon this question than any other securities that are listed.

Q. Do you know for the West Virginia Gas Corporation, first sinking fund six and a half's?

A. No, I do not.

Q. Or the Ohio Valley Gas Corporation, first sinking fund six and a half's?

A. No, I do not.

[fol. 2263] Q. Or the Ohio Valley Gas Corporation, first sinking fund, six and a half's?

A. No, I don't.

Q. Or Wayne Gas Company first convertible sinking fund six and a half's, or do you know for Texas Gas Utilities, first exchangeable sinking fund sixes?

A. No, I do not know the details of the issue.

Q. Or Ohio Kentucky Gas Company, first sinking fund A six and a half's?

A. No.

Q. Or the Cities Service Company's first pipe line company five and a half's?

A. No.

Q. Or Cities Service Gas Company's first pipe line company sixes?

A. No.

Q. Do you know anything about the details of the issue of the Littlerock Gas & Fuel, refunding sixes?

A. No.

Q. Or Consolidated Gas & Electric Company, first and collateral sixes, and the convertible debentures six and a half?

A. No.

Q. You don't know about any of these gas company bonds then, except the Lone Star Gas Corporation or its affiliated companies?

A. Oh yes, I know what the bonds are selling for and approximately what they yield to the investor.

Q. Yes, but you don't know, do you Mr. Connor, what the [fol. 2264] investor is getting for his money. You don't know what the amount of the security is or what the value of the property is or what the securities are or what the earnings are, do you?

A. Yes, I said that I knew and in fact I have in my office a detail of the set up of each of the issues of the Dallas Gas Company, County Gas Company, Texas Cities Gas Company, Municipal Gas Company, and the debentures of Lone Star Gas Corporation. It would be a very easy matter to get the others, and just go to any of the manuals, Moody's or any one else, and pick out these securities and make the determinations you have suggested.

Q. All right now, you have listed the Municipal Gas Company's bonds, you say?

A. Yes.

Q. That is on your second sheet, isn't it?

A. That is correct.

Q. Municipal Gas Company, First A sixes. Is that a mortgage on the property of the Municipal Gas Company?

A. It is.

Q. A first Mortgage?

A. Yes, a first mortgage.

Q. What are those properties worth or what were they appraised as being worth at the time the mortgage was put upon them?

A. I think approximately Five Million Dollars.

Q. What was the amount of the mortgage?

A. I don't recall; it is approximately \$1,800,000.00, I think.

[fol. 2265] Q. Are you sure about that?

A. Pretty sure, yes.

Q. Doesn't the indication here, First A Sixes, show there's more than one issue?

A. This is a first mortgage.

Q. Well, what does the A mean? Does that indicate that there was an A issue and probably a B and a C issue?

A. There are no other issues of bonds against the properties of Municipal Gas Company. These are the only bonds outstanding.

Q. You say that issue was for how much?

A. Approximately \$1,800,000.00, and I think the issue was authorized for Two Million Dollars. It may be that they issued \$1,900,000.00, but I do not think all of those bonds were issued. I can give you the exact details on each of those issues in the morning.

Q. What was the selling price on these bonds?

A. The last sale was at 94.

Q. I mean what was the selling price at the time they were originally marketed?

A. I do not recall at this time, but I have all this information in my notes.

Q. Who handled the loan?

A. I do not recall at this time.

Q. Was it a Texas company?

A. No, I think the bonds were sold in Boston.

Q. In Boston. You don't know what the selling price [fol. 2266] of the bond was or what the selling price to the broker was either?

A. No. It might have been that those bonds were issued for the purchase of property, and I think that was exactly what happened. I do not think there was any discount or brokerage on those bonds, except the incidental cost connected with the transfer. In other words, those bonds were not placed on the open market, as I recall.

Q. Now, this company is a distributing company, isn't it?

A. Yes, that is correct.

Q. And the Texas Cities Gas Company is also a distributing company is it not?

A. That is correct.

Q. And County Gas Company is a distributing company?

A. That is correct.

Q. And so is the Dallas Gas Company?

A. That is correct.

Q. Now, then, is there any connection between the bonds of distributing company and the bonds of pipe line companies, as to prices that each would be able to hold in the market?

A. Yes. There is a difference, I think.

Q. Suppose that the Lone Star Gas Company, which supplies gas to all of these companies, should accept the price at the city gate as provided by the order of the Railroad Commission, of thirty-two cents per thousand, for domestic gas. Wouldn't the market position of these bonds be immediately improved?

A. I don't know.

[fol. 2267] Q. Wouldn't the earnings of these distributing companies go up?

A. You mean if the Lone Star Gas Company delivered them gas at a lesser price?

Q. Yes.

A. Why certainly.

Q. And as soon as the earnings of the distributing companies went up, wouldn't people want those bonds more, and wouldn't the price of the bonds rise?

A. Well, I don't know that that would particularly stimulate those particular bonds,

Q. Why, Mr. Connor, isn't it a matter of common knowledge that if the pipe line company makes all the money, that the distributing company bonds will be in bad shape, and if on the other hand, the distributing companies are the ones that are allowed to make the money through the pipe line companies charging small rates, that this will result in the earnings of the distributing companies being more and that people will want those bonds of the distributing companies and the bonds will sell higher on the market?

A. Yes, as a matter of fact all those conditions that you are talking about, Mr. Fitzhugh, might transpire, theoretically at least, but the situation with reference to these specific securities, is this: that the earnings of the companies, the Dallas Gas Company, County Gas Company and the Municipal Gas Company and the Texas Cities Gas Company, taken in connection with the relatively small amount [fol. 2268] of the issues in question, has been such that the earnings have been sufficient to put those bonds in a good rating class. In other words, the interest on those bonds has been earned more than two times by these respective companies.

Q. Take the case of the Texas Cities Gas Company, first fives, which you show to have a last sales price of 55. Now these are about the worst bonds, so far as their market position is concerned, of any of the affiliated companies of the Lone Star Gas Company; isn't that right?

A. That is correct, and yet the interest on these bonds has been substantially earned by Texas Cities Gas Company.

Q. Now, in 1933, how many times interest requirements were the earnings of this company?

A. I don't know. I can furnish you with that information in the morning.

Q. Well, do you know it approximately?

A. I think it is approximately two times.

Q. Two times the interest requirements?

A. That's right.

Q. Now, suppose the rates at the gate for the Texas Cities Gas Company, at the various towns composing that company, were cut to allow it to earn four times its interest requirements; don't you know as a matter of fact that these bonds would shoot up in the market?

A. They would probably increase if they were put in a position to earn four times the bond interest requirements.

[fol. 2269] Q. It is not your opinion, is it, Mr. Connor, that your company ought to be allowed to earn huge sums of money, when other companies of the same sort of business risk are making comparatively low amounts of money?

A. I think that hasn't anything to do with it.

Q. What are some of the comparable businesses?—Well, for example now, Mr. Connor, the oil pipe lines represent a business similar in many respects to the gas pipe line business; isn't that right?

A. That is correct. They transport a commodity by means of a round steel medium, but they have no relation one to the other as to the matter of the services they render. None whatever.

Q. Isn't it a fact, Mr. Connor, that some of the oil pipe lines operating in this section of the country where your company is operating its business, in 1932 were unable to make any return at all on their investments?

A. I don't think that has any bearing at all on what constitutes a fair return to Lone Star Gas Company.

Q. But that is a fact, isn't it?

A. Yes, and I imagine in some years some of those pipe lines earned fifty per cent on their investment.

Q. And a lot of other private businesses in this same section as your company operates had a hard time in making any money at all in these past years; isn't that correct?

A. That is correct; but it is not true that the State of Texas, through the Railroad Commission of Texas, will [fol. 2270] come to a private business when it is making a high return, and come along and reduce the sales price of the commodities of any private business.

Q. Are the oil pipe lines subject to any regulation in Texas?

A. I don't know to what extent they are subject to regulation, but I know that the private business you mentioned in making a comparison between Lone Star Gas Company and that private business, is not subject to regulation.

Q. And on the other hand, private concerns do not have the same guarantee as to constitutional immunities that you have, either, do they?

A. I don't know of any guarantee a public utility has, except that it may have a right to earn a fair return.

Q. And that with an allowance for all these depreciation reserves and operating expenses, and upon the fair value of its property, and everything else?

A. That is correct.

Q. Now, what are the considerations you say, Mr. Connor, that makes you decide that ten per cent is a correct amount for your company to earn?

A. Because it is fairly evident, looking over even the mortgages against the property, that the yield on natural gas pipe line mortgages is approximately ten per cent. Now, the yield on a mortgage for a property is the cheapest money that a company can get. Now, the thing which constitutes a fair rate of return is that rate of return which [fol. 2271] would induce people, without any duress, to come in and put their money into a business. Now if a person could get a mortgage on a natural gas pipe line business and the sum of money advanced for that mortgage only represented a part of the total value of the property, and he can get substantial interest rates on his money with that mortgage investment, substantially in excess of six per cent, then I can not conceive of any reason in the world why a man would take his money and go into a natural gas business, unprotected by a mortgage and expect to be limited to a six per cent return.

Q. Don't you think, Mr. Connor, that your company should share along with the general business distress that everybody has been under during the last few years, and take a little less return now than you ordinarily try to get?

A. I think Lone Star Gas Company has suffered, and I think every operating statement of the last four years clearly indicates that they have suffered.

Q. You are still making a comfortable return, aren't you?

A. No.

Q. What do you call a comfortable return—a full ten per cent?

A. I think the company is entitled to that, but when it is restricted to a rate of return which is actually equal to what it has to pay to get a small portion of the total money invested in that property—in other words, merely swapping dollars—and in that case, not in the open market, but by means of the Lone Star Gas Corporation, I think Lone Star Gas Company could not get six per cent money in the open [fol. 2272] market today if it had to do any financing whatever, and yet the rate of return fixed by the Railroad Commission is less than that rate of interest which Lone Star Gas Company would have to go out and pay on a first mortgage of its property.

Q. Mr. Connor, don't you think, in view of the hardships of the last few years, that have hit the people of Texas, that a six per cent return ought to satisfy your company for at least these years?

A. I do not think six per cent is a fair and reasonable return for money invested in a public utility subject to public regulation and surrounded by the hazards that are inherent in the natural gas business, no sir; because just as truly when prosperity comes, this return to this utility is going to be likewise depressed below that which ordinary business secures, and that is clearly indicated by the rate of return allowed the Fort Worth Gas Company by the Texas Railroad Commission in the era of the greatest prosperity.

[fol. 2273] Q. Now, at the time the Railroad Commission had this hearing, Mr. Connor, the market was all shot to pieces, wasn't it?

Mr. Griffith: What market, Mr. Fitzhugh?

Q. The market for securities that Mr. Connor knows so much about.

A. I say that the market has been unsettled for sometime.

Q. Those Texas Cities Bonds now selling at 55, at the time of the Commission's hearing were selling at 32, weren't they?

A. I know it got pretty low.

Q. And all these other bonds were down proportionately?

A. No; the yield on the artificial gas bonds and the electrical bonds was about the same now as then.

Q. Well, that is only on the most stable ones—the ones recognized as being in the best shape?

A. And perhaps in the best business:

Q. And on all these speculative or semi-speculative bonds the yields were considerably in excess of what they show in your exhibit?

A. No; I don't think so. I would have to get a copy of the other exhibit and make a comparison.

Q. All right. Now, on these Texas City Gas Company bonds the present yield to maturity is about how much?

A. Oh, I would say about 11½ per cent—in that neighborhood.

Q. At 32, what was the yield?

[fol. 2274] A. Probably about fourteen, or twelve per cent.

Q. More than that, wasn't it?

A. Well, I don't know.

Q. Wasn't in excess of twenty per cent to maturity?

A. Yes; taking into consideration the coupon yield itself, that is true.

Q. In spite of the fact that a number of bonds of that same nature had yields way up twenty per cent or more, your testimony before the Railroad Commission then was that ten per cent was the yield your Company should have, wasn't it?

A. Yes; I think that always a natural gas pipe line company engaged in the production and transportation of natural gas should be permitted to earn, if it can do so at reasonable rates, not less than ten per cent per annum.

Q. Now, since the yield on securities in the market has been materially reduced since you testified before the Railroad Commission, you still ask for the same rate of return, don't you?

A. Yes; and I testified before the Railroad Commission, if you recall, that I did not at that time give any consideration to those unusual conditions which, if applied strictly to the situation then existing, would indicate that a higher yield than ten per cent would be justified in order to attract capital into the business.

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[fol. 2275] Redirect examination.

Questions by Mr. Griffith:

Q. Mr. Connor, in connection with your testimony on cross-examination, regarding your depletion allowance, as set forth in Exhibits 41 and 42, respectively, you made some reference to the falling off of the gas supply from the casinghead gasoline plants in the East Texas area?

A. That is correct.

Q. I will ask you if the residue gas from the casinghead plants in the West Texas area has been a considerable source of gas supply to the Company since 1923 or 1924?

A. It has. Beginning in 1923 Lone Star Gas Company secured its first deliveries of residue gas from casinghead plants—secured that supply in the latter part of the year and it was relatively small, 186,682,000 cubic feet. In 1924 that had increased to 11,699,183,000 cubic feet. It reached a maximum in 1927 of 17,643,453,000 cubic feet, or 47.23 per cent of the total gas purchased and/or produced by Lone Star Gas Company during that year.

Q. What is the situation today, and what situation has prevailed in the last year or so, relative to the volume of casinghead gas from casinghead gas plants, which is available to Lone Star Gas Company?

A. There has been a very substantial decline in the volume of casinghead residue gas available to Lone Star Gas [fol. 2276] Company. During the period of time at which Lone Star Gas Company first secured its casinghead supply there have been a few plants which have been continuously attached to the system. There have been other plants which have been added to the supply, and have, therefore, maintained the amount of supply available out of relation to the decline which has taken place in the casinghead gas supply. The casinghead gas supply, based upon an actual picture of the decline of the plants which have remained in service, and which constitute approximately 95 per cent of the maximum deliveries which the Lone Star Gas Company once secured from casinghead plants, has declined from 100 per cent in the year 1925 to 31 per cent relatively in 1932.

Q. Now, Mr. Connor, what does that indicate in respect of the future source of gas supply available to the company's lines and pipe line system?

A. It indicates, after a study of the history of the production of each casinghead plant available to Lone Star Gas

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Company, which investigation took into account the production from individual wells and leases from the date of their maximum production until the date of the investigation, together with the percentage of the gas which Lone Star Gas Company might secure from these plants, because Lone Star Gas Company cannot secure 100 per cent of the total production of the wells—certainly, in view of the amount lost in the production of gasoline, percentage returned to [fol. 2277] lease, and so forth; but it is a very clearly defined decline, which can be set out with almost mathematical exactitude, that within a period of time not far in the future Lone Star Gas Company will be without a source of supply which in the past has furnished it almost fifty per cent of its total requirements, and as much as seventeen billion feet of natural gas.

Q. And is that one of the factors that you have taken into consideration in determining that over a period of years in the future Lone Star Gas Company will produce twenty billion cubic feet of gas per annum from its own reserves?

A. That is correct. Lone Star Gas Company has got to supplement a source of supply which has furnished as much as seventeen billion cubic feet of its past supplies; and that calculation is based upon, as I said before, analysis of every plant which produces casinghead gas and furnishes residue gas to Lone Star Gas Company. The decline curves for each individual group of wells, and each individual group of leases, has been worked out from the date they went into operation until the date of the investigation.

Q. Mr. Connor, did you make any checks on your determined mortality curves in connection with steel pipe, and did you make any calculations reflecting the actual as against the calculated replacements, abandonments, retirements, and removals of steel pipe?

A. I did.

[fol. 2278] Q. Is that set forth in Defendant's Exhibit 42?

A. That is correct.

Q. At what page?

A. It is set out at various sections in the report, beginning at page 99 and extending through page 138. However, summarizing the results of the various checks the following facts are developed: That if Lone Star Gas Company's pipe had been replaced, and its main lines, tap lines, field lines, and well lines, in conformity with the calculated replace-

ments, removals, and abandonments, which I have set out in this exhibit, there would have been replaced, removed, or abandoned in the system of Lone Star Gas Company from the year 1910 through the first six months of 1933, 8,088,591 feet of 3-inch equivalent diameter pipe. That is the footage of pipe which would have been removed, replaced, and abandoned, if no history was available, and the replacements, removals, and abandonments had followed exactly the calculations which I have made.

Q. What were the actual historical mortalities, or the historical removals, retirements, and abandonment of steel pipe in the system from 1909 to July 1, 1933?

A. 8,130,290 feet of equivalent 3-inch diameter pipe.

Q. In other words, the actual removals were in excess [fol. 2279] of the removals you had calculated?

A. They were almost exactly the same.

Q. But the actual removals were slightly in excess?

A. That is correct.

Q. Now, Mr. Connor, sometime this afternoon, Mr. Fitzhugh asked you to make a calculation showing a detail of some factors which you had set forth in your Exhibit 18, and the factor used was 1.18 per cent?

A. That is correct.

Q. Will you now explain to the jury and to Mr. Fitzhugh just how you arrived at that calculation?

A. Yes. It was not 1.18 per cent; it was 118 per cent, Mr. Griffith. I determined that of a number of pipe line installations on which I had the actual cost involving the expenditure of more than four and a half million dollars pipe and fittings in the line constituted 64 per cent of the total cost. I previously estimated or determined from analysis, of all these jobs of smaller replacements of pipe—small and large—that these cost about 150 per cent of the estimate of wholesale construction to actually replace pipe in small lots and in small sections, and under the conditions which would have to be overcome in connection with that class of work. Therefore, 64 per cent of 100 per cent, or 64 with reference to 100, becomes 42.7 with reference to 150; and that is merely determined by dividing 64 by 150; you then get 42.7. [fol. 2280] I then estimated that the worth of material taken out of pipe lines by reason of the fact that the pipe was no longer any good would still be worth 50 per cent of new. Therefore, if it was worth 50 per cent of new, it would

be worth one-half of 42.7, or 21.35 per cent of the entire cost of the job. Well the entire cost of the job is 100 per cent; so subtracting 21.35 from 100 per cent, I get 78.65 as the factor to apply to 150 per cent. Multiplying 78.65 by 150 and you get 117.970. I used 118.

Q. And that is the figure used and adopted by you in Defendant's Exhibit 42?

A. That is correct.

Q. Mr. Connor, is the public service plant and property of the Lone Star Gas Company relatively old or new?

A. Relatively new.

Q. Well, now, you make that statement in spite of the fact that the company has had a corporate existence commencing in 1909?

A. That is correct.

Q. Well, then, how can the property be relatively new?

A. Because the amounts of property which have been added in recent years is greatly out of proportion to the amount of property originally constructed. A very large per cent of the Lone Star Gas Company's pipe line system, compressor system structures, and other appurtenant equipment, [fol. 2281] has been built within very recent years.

Q. Mr. Fitzhugh suggested to you that the determined replacements on a relatively new property would not be as great as on a relatively old property, and you concurred in that statement?

A. That is correct.

Q. Mr. Connor, if we took an automobile that cost \$1000, and it was known that that automobile would go 100,000 miles and then be junked or salvaged, what straight line depreciation would you charge per mile on that automobile?

A. One thousand dollars—

Q. And one hundred thousand miles.

A. One cent a mile.

Q. One cent a mile. Now, in the first ten to twenty thousand miles of the life of that automobile, would it be expected that there would be replacements of parts of that automobile which would consume the depreciation allowance of one cent per mile?

A. No; there would not.

Q. As a matter of fact, there probably would not be any material replacements in the early life of that automobile?

A. That is correct.

[fols. 2282-2283] Q. Well, would it be reasonable to assume that the retirance of the automobile at the end of the 100,000th mile would be made upon some basis which did not presuppose that the depreciation accrual would commence with the first mile that the automobile traveled?

A. Oh, that is correct, yes.

Q. And would that be true so that at the end of the 100,000th mile the cost of the automobile would be returned to the owner less any salvage or trade-in value?

A. That is correct.

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[fol. 2284] Q. Mr. Connor, please refer to Defendant's Exhibit 43. In the several columns stating the maturity date as set forth in that exhibit, commencing, for example, with Allegheny Gas Corporation, the figure "43" appears?

A. That is correct.

Q. Do all of the numbers appearing under maturity date in that exhibit have reference to the present century—that is, should there be a figure "19" in front of each one of those numbers?

A. That is correct, with the sole exception found on the last page where the maturity date is 2022.

Q. In connection with the debentures of Texas Power & Light Company?

A. That is correct, yes, sir.

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[fol. 2284-A] Reporter's certificate to foregoing transcript omitted in printing.

[fol. 2285] ED. C. CONNOR, resumed his testimony and testified as follows:

Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Connor, assuming that you are correct, that the withdrawals will be in a yearly amount of about twenty billion cubic feet of gas per year, and assuming the 20-year period taken by Mr. Huley in his exhibit, that would show

that there would be about 40,000,000,000 cubic feet of gas withdrawn in the 20-year period, would it not, or rather—

Judge Powell: Four hundred billion.

Q. Yes, four hundred billion cubic feet.

A. My estimate, Mr. Fitzhugh, would show that the withdrawals would deplete the reserves in slightly less than [fol. 2286] twenty years, and at the rate of twenty billion cubic feet a year.

Q. Well, twenty billion cubic feet would be about four hundred billion cubic feet in twenty years.

A. It would be something less than twenty years. I approximated twenty billion feet a year because the reserves—the calculated reserves do not equal four hundred billion; they are slightly less than that.

Q. Well, it would work out about 386,000,000,000 cubic feet for the period, would it not?

A. That is correct; and the period would be slightly less than twenty years.

Q. Now, then, assume, Mr. Connor, that you were selling 400 bales of cotton, instead of gas, and that you were going to sell those 400 bales as they were produced during a 20-year period at the rate of about 20 bales per year. Applying the same method to the sale of these bales of cotton, you would assume that on the first sale for the first of the 20 bales the entire amount for the purchase of the whole 400 bales would be paid, would you not?

A. No, I don't think that the purchaser of the property would—the purchaser of natural gas delivered by Lone Star Gas Company is not making specific contributions to the various operating expenses of the Company; he is simply [fol. 2287] paying for the service rendered by Lone Star Gas Company, and what I was endeavoring to do was to distribute the costs of that service uniformly over the period of time in which the particular part of the property represented by gas well construction and equipment would be used up in the service.

Q. Well, if my illustration is bad, then I will change it, Mr. Connor. Suppose that you were to purchase these 400 bales in equal installments through a 20-year period—that is, 20 bales a year,—then your installments would be equal throughout the life of the contract, so to speak, would they not?

A. That is correct, yes.

Q. But instead, if you only took three the first year, four the second year, and six the third year, there would be some sort of readjustment in the last few years to take up the difference between that amount and twenty, would there not?

A. Naturally, the average would be the figure which would determine under those conditions.

Q. But, now, by analogy, if you used the same method as you have used on the consumption of gas, regardless of how many bales were taken in the first few years, they would pay for the full twenty, would they not?

A. That is correct, under your assumption.

Q. In other words, you are only taking five or six billion [fol. 2288] cubic feet now, but you assume, nevertheless, that they are taking twenty billion, for the purposes of your computation?

A. That is correct. However, Mr. Fitzhugh, this factor is to be taken into consideration, that the method that I was using was the only one which appeared to me to be the rational one to recover the cost of gas well construction and equipment. Now, as a matter of fact, the actual gas wells which Lone Star Gas Company has had to abandon during the last few years and the prospects of the wells which they will actually have to abandon during the few years that we can really anticipate the rate of abandonment of wells would indicate a capital loss substantially in excess of the calculation made upon the basis which you have suggested—that is, applying the ratable deliveries to the unit costs; in other words, the actual loss of gas well construction and equipment which this reserve accrual is intended to cover will be considerably greater during the next few years, even with the lower rates of delivery, than the twenty billion—

Q. Well, you could have—

A. —than the exact application of the deliveries to the unit costs; and after all, what we are trying to do is to develop an accrual which will pay for that capital loss.

[fol. 2289] Q. Well, Mr. Connor, you could have adopted some method, could you not, that would have made the present consumer pay only for the actual consumption of gas at this present time, could you not?

A. That is correct; that is true of all costs of operation, however, Mr. Fitzhugh, which include reserve accruals for

other purposes; and reserve accruals are not, to my knowledge, ever calculated or set up upon that basis.

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E. F. SCHMIDT, a witness for defendant, having been duly sworn, testified as follows:

Direct examination.

Questions by Mr. Griffith:

Q. What is your name?

A. E. F. Schmidt.

[fol. 2290] Q. Where do you live?

A. Dallas, Texas.

Q. In what business are you engaged?

A. I am in the business of transporting and selling natural gas.

Q. Are you identified or connected with the defendant, Lone Star Gas Company?

A. I am General Superintendent of the Lone Star Gas Company.

Q. How long have you been General Superintendent of Lone Star Gas Company?

A. About ten years.

Q. How long have you been employed by or identified with the operations of the Company?

A. Since April, 1918, or approximately sixteen years.

Q. Are you an engineer, Mr. Schmidt?

A. I am.

Q. Are you a graduate of any accredited Engineering School?

A. Yes, I am a graduate of Cornell University, at Ithaca, New York.

Q. Did you receive a degree from that institution?

A. The degree of Civil Engineering.

Q. Mr. Schmidt, will you please relate to the jury, in a general way, what has been your experience in the natural [fol. 2291] gas business?

A. I started in the natural gas business in 1912, in West Virginia, particularly at that time on inventory work—

that is, valuation of gas properties. I spent about a year and a half in West Virginia, and then made a complete—

A. I spent about a year and a half in West Virginia, and then spent about two years in Toledo, Ohio, making a complete inventory survey of the City of Toledo's gas properties. From there I went to Pennsylvania and made a valuation of the Fayette County Gas Company.

Q. Doing business at what place?

A. Well, the principal points of business were Uniontown and Connellsville, but all through that part of Pennsylvania; from there I went to Columbus, Ohio, and for a number of years was in the Engineering Department of the Ohio Fuel Supply Company.

Q. What was the Ohio Fuel Supply Company?

A. The Ohio Fuel Supply Company operated through Ohio, supplying the cities—the principal cities of Columbus, Cincinnati, Zanesville, and a large number of smaller towns through Ohio.

Q. Was it a large natural gas producing, transporting and [fol. 2292] distributing company?

A. At that time one of the largest, if not the largest.

Q. What was the general nature of your work in the Engineering Department of the Ohio Fuel Supply Company?

A. I had charge of well locations and surveys for new transmission lines, and quite a little inventory work. From the Engineering Department I was transferred to the Gas Measurement Department at about the time that the orifice meter came into use, and had quite a little to do with the development of the differential gauge used for the transmission of large volumes of gas by an orifice meter.

Q. The method which is now utilized?

A. Yes, sir. At the same time, while in connection with the measurement work, I experiment- a great deal with the methods in use at that time for determining the specific gravity of gas, and in connection with Mr. P. McDonald Bid-
dison and T. H. Kerr, and the Bureau of Mines, we developed an apparatus for the accurate determination of specific gravity.

Q. By what name is that apparatus known?

A. Of course, it is called now by various names, but at that time it was called the Edwards Gas Density Balance.

Mr. Edwards had charge of the Department of the Bureau that conducted the investigations.

[fol. 2293] Q: When you refer to the Bureau of Mines, do you mean the Bureau of Mines of the United States?

A. Yes, sir. The first instruments that were made I had a great deal to do with, and one of these instruments was used in the Bureau of Mines laboratory in Washington, for making determinations of specific gravity for a number of years, until the apparatus was improved further. The apparatus now can be purchased from a number of manufacturers, the principal one being known as the Acme—

* * * * *

Q. Mr. Schmidt, in what further work were you engaged while connected with the Ohio Fuel Supply Company?

A. I laid out their compressor stations and gasoline plants and gasoline drying plants.

Q. And by laying them out, do you mean you designed [fol. 2294] and supervised the construction of such?

A. Yes, sir.

Q. Now, does that generally detail the nature of the work that you did while you were with the Ohio Fuel Supply Company?

A. That is correct.

Q. When did you come to Texas?

A. April, 1918.

Q. April, 1918, and did you go to work immediately for the Lone Star Gas Company?

A. I did.

Q. In what capacity?

A. At that time the Lone Star Gas Company had decided to put in a main line measuring system for the measurement of gas flowing through the main lines at various points through the system, and I had charge of picking the locations and the installation of these high pressure main line measuring stations, and at the same time had charge of the Gas Measurement Department, which computed the—all of the measurements made by the Lone Star Gas Company, city gate deliveries, industrial measurements, and main line measurements.

Q. Following the completion of that work, in what work did you engage?

A. Well, it was soon after that that Lone Star Gas Company began to expand its system, and I became Chief Engineer of the Company, and had charge of the surveys and laying out of the various lines going to points of distribution throughout the System, and charge of the construction of these lines as they were built.

Q. You state that you became General Superintendent of the Company about ten years ago?

A. About nine or ten years ago, yes, sir.

Q. Now, since you have been General Superintendent of Lone Star Gas Company, what has been the general nature of the work which you have been called upon to perform?

A. Well, of course, in the beginning some of the lines that I refer to that were built in the expansion of our System, I was Superintendent during that time, and I had charge of the operation of these lines, the operation of the gasoline plants, the operation of the compressor stations, and the measurement of the gas throughout the System.

Q. Mr. Schmidt, from your general experience and from your particular experience in connection with the operation of the Lone Star Gas Company, would you say that you are familiar with all of the ramifications of the Company's business, in so far as construction and operations are concerned?

A. I am.

[fol. 2296] Q. Mr. Schmidt, is the Lone Star Gas Company engaged in the transportation of gas from and through the State of Oklahoma into the State of Texas?

A. They are.

Q. Have you prepared a compilation covering a period of years showing the amount of gas transported from and through the State of Oklahoma and into the State of Texas?

A. I have.

Q. Is this the compilation to which you refer?

A. It is.

Mr. Griffith: We offer the compilation so identified by the witness in evidence.

(Thereupon the compilation above referred to was marked for identification as Defendant's Exhibit No. 44.)

Q. Mr. Schmidt, please refer to the first page of Defendant's Exhibit 44. What do you show on that page?

A. The first page is a summary—five year summary of

gas transportation in the Lone Star Gas Company system, beginning with the year 1929, through the year 1933.

Q. When you state "Transported from and through Oklahoma", or in the column so headed, do you specify the amount of gas expressed in thousands of feet which have been transported from the Company's pipe lines, or in the Company's pipe lines, from the State of Oklahoma into the State of Texas?

A. That is correct.

Q. Does that cover and include such gas as is transported [fol. 2297] through Oklahoma from the Shamrock Field in Texas?

A. It does.

Q. Or from the Texas Panhandle area?

A. That is correct.

Q. Under the column headed "Total Transported", do you show the total amount of gas transported in the entire pipe line system of Lone Star Gas Company, regardless of the origin of the gas?

A. I do.

Q. And in the column headed "Per cent Transported thru Oklahoma", do you show the percentage relation of gas transported from and through Oklahoma to the total amount of gas transported originating from every source?

A. That is correct.

Q. At the bottom of page 1 you show "Weighted Average Per cent Transported thru Oklahoma"; what do you mean by Weighted Average Per Cent, shown to be 28.9 per cent?

A. That is the weighted average for the five-year period, arrived at by dividing the total gas transported from and through Oklahoma into Texas by the total gas transported for the five-year period on the entire system, showing 28.9 per cent.

Q. Refer please to page 2 of Defendant's Exhibit 44, where a schedule for the year 1929 appears to be shown, and please give us an explanation of the subject-matter appearing on that page.

[fol. 2298] A. This data indicates the amount of gas produced in the Oklahoma fields proper, and each field is enumerated separately; that is the Chickasha and Nellie Field, showing 2,981,876,000 cubic feet for the year 1929; the Duncan Field, 936,554,000 cubic feet; the Loco Field, 474,937,000 cubic feet; the Fox Field, 3,393,734,000 cubic feet; the Rob-

berson Field, 997,965,000 cubic feet; or a total from the Oklahoma field, produced and purchased, of 8,785,166,000 cubic feet.

Q. Now, Mr. Schmidt, are all of these fields,—that is, the Chickasha and Nellie, the Duncan, Loco, Fox, and Robber-son fields—located in the State of Oklahoma?

A. They are.

* * * * *

[fol. 2299] Q. Now, Mr. Schmidt, will you please show to the jury by reference to the map which has been introduced in evidence, and styled Defendant's Exhibit 29, the general route of travel of the gas produced and/or purchased by the Lone Star Gas Company in these several gas fields?

A. From the Fox, Loco, and Robberson area, in Stephens and Carter counties—

Q. And also from the Palacine Field?

A. Yes—gas travels in a southeasterly direction through Line G through Carter and Love Counties, leaving the State of Oklahoma and coming into Texas at a point north of the city of Gainesville. The gas from the Duncan Field and the Chickasha Field, in Stephens County—

Q. Also the Nellie Field.

A. —and the Nellie Field, travels in a southerly direction through Cotton County, Oklahoma, crossing the state line at a point north of Petrolia, Texas, coming into the lines [fol. 2300] that feed from there into the various lines of the Lone Star Gas Company in Texas.

Q. What are the lines through which gas is transported from the Chickasha, Nellie and Duncan fields into the State of Texas, to a point which you say is near Petrolia, Texas?

A. Lines H and 2nd H.

Q. Are those two 12-inch lines?

A. Those are two twelve-inch lines.

Q. Are they high pressure pipe lines?

A. They are.

Q. You referred to Line G running in a southerly direction through Carter and Love Counties in Oklahoma and coming into Texas at a point north of Gainesville; what size line is that?

A. A 16-inch high pressure gas line.

Q. Now, Mr. Schmidt, in addition to this gas which has been transported from Oklahoma into the State of Texas

through the pipe line system of the Lone Star Gas Company, is any other gas transported through the State of Oklahoma and then into the State of Texas?

A. There is.

Q. Where does that gas originate?

A. That gas originates in Wheeler County, Texas, or in the Panhandle of Texas.

Q. Sometimes referred to as the Shamrock area?

A. The Shamrock area, yes, sir.

[fol. 2301] Q. And what is the general route of travel of that gas?

A. That gas leaves the field going in a southeasterly direction, entering the State of Oklahoma, in Beckham County, traveling south through Oklahoma, leaving the State of Oklahoma and coming into Texas at a point northwest of Quanah, Texas. This gas is transported through Line A, which is an 18-inch high pressure gas line.

Q. And where the line re-enters the State of Texas near Quanah, what is the general route of the line following its re-entry into Texas?

A. In a general southeasterly direction through Vernon, and Wichita Falls, to Petrolia, Texas, where it joins the lines from the Chickasha, Duncan, and Nellie Fields, and is transported from there on south to Fort Worth and Dallas and other communities.

Q. If we refer to page 2 of Defendant's Exhibit 44, it is noted that you show the total Oklahoma deliveries in the amount of 726,990,000 cubic feet for the year 1929?

A. Yes, sir.

Q. And you make a reference to a note at the bottom of the page?

A. Yes, sir.

Q. What do you mean by the total Oklahoma deliveries?

A. That figure of 726,990,000 represents the gas sold in Oklahoma city gate deliveries and towns enumerated in the note at the bottom of the page, Note I, as well as main line [fol. 2302] sales, and fuel used at the Loco, Fox and Gas City compressor stations.

Q. Does the Lone Star Gas Company sell gas wholesale at the city gates of the various towns and cities which are enumerated in Note I at the bottom of the page, showing gas transported for the year 1929?

A. They do.

Q. In exactly the same manner it sells gas wholesale at the city gates of numerous towns and cities in the State of Texas?

A. That is correct.

Q. Mr. Schmidt, again referring to page 2 of Defendant's Exhibit 44, you show the net amount of Oklahoma gas transported into Texas. Is that amount, which is 8,058,176,000, obtained by taking the total production and purchases of gas in the Oklahoma fields and deducting from that amount the total deliveries in Oklahoma of the Oklahoma gas produced and/or purchased?

A. That is correct.

Q. Now, you have just identified on the map styled Defendant's Exhibit 29 the Shamrock area, and you have shown the total amount of gas produced and/or purchased by the company in the year 1929 in the Shamrock area of Wheeler County, Texas?

A. That is correct.

[fol. 2303] Q. Do you next show under the year 1929, the gas transported by Lone Star Gas Company, the amount produced and/or purchased in the Shamrock territory?

A. I do, in the amount of 7,044,965,000 cubic feet.

Q. Now, was any of that gas transported by the Company from the State of Texas into the State of Oklahoma and there sold?

A. There was.

Q. And do you account on this page for those sales?

A. I do.

Q. In note 2 at the bottom of the pages?

A. Yes, sir; that sets out the towns in Oklahoma who were supplied with gas from the Shamrock area.

Q. Now, in connection with some of those towns, Mr. Schmidt, was the gas transported through Line A from the State of Texas into the State of Oklahoma, out of the State of Oklahoma, and into the State of Texas, and thence back into the State of Oklahoma?

A. That is correct.

Q. In respect of what towns?

A. Davidson, Frederick, Tipton, and Snyder.

Q. Now, what was the total of deliveries of Shamrock gas in Oklahoma which was transported through Line A, as shown by page 2 of the Exhibit?

A. 379,351,000 cubic feet.

[fol. 2304] Q. By deducting that amount from the total of gas produced and/or purchased in the Shamrock area do you get the net amount of Shamrock gas transported through the State of Oklahoma?

A. Yes; in the amount of 6,625,614,000.

Q. By adding that net amount to the total of the net amount of Oklahoma gas produced and/or purchased and transported into Texas, do you then get 14,683,790,000 cubic feet, as representing the total amount of gas transported by the Company from and through the state of Oklahoma into the State of Texas?

A. That is correct.

Q. You then show the total amount of gas transported from all sources?

A. Yes, sir.

Q. During the year 1929, in what amount?

A. 44,625,913,000.

Q. Now, what was the per cent relation of the total amount of gas transported from and through Oklahoma to the total amount of gas transported from all sources?

A. In the year 1929, 32.9 per cent.

Q. Mr. Schmidt, in a manner similar to the manner in which you have prepared the compilations appearing on page 2 of Defendant's Exhibit 44, covering the 1929 operations of the Company, have you prepared a statement showing the gas transported by the Company for the years 1930, 1931, 1932, and 1933?

A. I have.

Q. And is that information so compiled set forth in consecutive order in Defendant's Exhibit 44?

[fol. 2305] A. That is correct.

Q. Then you have carried over to page 1 of Defendant's Exhibit 44 the summarized calculations?

A. That is correct.

Q. Now, Mr. Schmidt, refer, please, to the map which appears at the close of Defendant's Exhibit 44. Does that map disclose the pipe line system of the Lone Star Gas Company?

A. It does.

Q. Please explain the colored markings upon this map.

A. The yellow line on this map — the Oklahoma-Texas border line. The red lines indicate the pipe lines transporting gas from Oklahoma into Texas or from Texas through Oklahoma into Texas. The towns in Texas which are cir-

cled in red are cities and towns in Texas which received their gas wholly from the Shamrock area, or a mixture of gas from Shamrock, Texas, and Oklahoma gas, during the year 1933.

Q. And may they also receive a mixture of gas from the Central West Texas area?

A. That is correct.

Q. But do all of the towns which are circled in red—did all of those towns receive gas during the year 1933 which was transported by the company from or through the State of Oklahoma into the State of Texas?

A. That is correct. They all do.

Q. In the usual course of operations of the company are there any towns which are exclusively or wholly supplied with gas which has been transported by the company from the Wheeler County area or the Shamrock territory through [fol. 2306] the State of Oklahoma and into the State of Texas?

A. There are.

Q. Will you please enumerate those towns or cities?

A. Chillicothe, Tolbert, Vernon, Oklaunion, Harrold, Electra, Iowa Park and Wichita Falls.

Q. In the usual course of the company's operations and at the present time are there any towns supplied with gas which is purchased wholly—or exclusively supplied with gas which is purchased and/or produced by the company in the Carter, Loco, Robberson, Fox and Palacine fields?

A. Towns on the line known as G-3, which takes off of Line G at a point just north of Gainesville, are supplied usually from gas produced and purchased in the State of Oklahoma.

Q. Transported through Line G through Jefferson, Carter and Love Counties into the State of Texas?

A. That is correct.

Q. What are those towns?

A. Those towns are: Saint Jo, Muenster, Myra, and Lindsay.

Q. Is there any other town?

A. Yes; the towns of Petrolia and Byers, on the H. System, get their gas almost exclusively from Oklahoma, transported from Oklahoma into Texas on the H System.

Q. Through what lines?

A. Through Lines H and Second H.

Q. What is the usual and ordinary source of supply of gas for the City of Gainesville?

A. Gainesville gets a mixtures of gases, sometimes wholly [fol. 2307] from Oklahoma and sometimes almost one hundred per cent from the Central West Texas fields.

Q. At the present time is the City of Gainesville and for quite a period of time has the City of Gainesville been receiving gas which has been wholly produced in the State of Oklahoma?

A. That is correct.

Q. Now, all of the towns which are circled in red and which are south or east of Petrolia, Texas, may at some time or other receive substantially all of their gas from the Oklahoma gas fields?

A. That is correct.

Q. Or from gas which has been produced and/or purchased by the company in the Wheeler or Shamrock territory?

A. That is right.

Q. But which has been transported through the State of Oklahoma and back into the State of Texas?

A. That is correct.

Q. At any time are the cities of Dallas and Fort Worth exclusively supplied with gas transported from the State of Oklahoma?

A. No, they are not.

Q. They are not?

A. No, sir.

Q. Those cities receive at any time only a part of the gas transported from or through Oklahoma into the State of Texas?

A. That is correct.

Q. Mr. Schmidt, will you please relate to the jury generally [fol. 2308] how gas travels from the well to the city gate station where a wholesale delivery is made by the Lone Star Gas Company?

A. The gas is taken from the well at high pressure and transported through the lines at high pressure to the city gate delivery points. At those points the pressure is reduced through regulators which are devices for automatically carrying and reducing the high pressure to a lower pressure, and at the discharge side of these regulators the gas is measured, and that measurement is the total gas delivered to any particular city. The pressures in the field at

the wells and in the pipe lines may vary from 300 to 450 pounds, and at the inlet of the regulators at the city gate stations the pressure varies, depending upon the location or distance of those towns from the source of supply. That pressure will vary from 150 to as high as 300 pounds, or in some cases 350 pounds. The gas travels uninterruptedly from the wells to the delivery points at the city gates.

Q. To what pressure is the gas transported in the high pressure pipe lines of the company reduced at the city gate measuring stations and for what purpose is that reduction in pressure made?

A. The pressure is reduced at those city gates stations through the regulators to a pressure there of twenty-five or thirty pounds. This is done in order to supply gas at a [fol. 2309] pressure which is safe to transport it through the city lines, the city distribution system, and it is done to accommodate the distribution plants in their operations.

Q. And it is done solely for that purpose, in so far as the Lone Star Gas Company is concerned?

A. That is correct.

Q. Where does the title to the gas pass out of or from the Lone Star Gas Company to the local distributing company at the city gate measuring station?

A. At the outlet of the meter, which is usually the outlet header of the orifice meter measuring station.

Q. Is there ever any period of time, Mr. Schmidt, when the gas transported by the company from and through the State of Oklahoma in its high pressure pipe line, when that forward movement of the gas is arrested?

A. There is not.

Q. What is the last act of the Lone Star Gas Company in connection with the actual delivery of the gas by it at the city gate to the local distributing company?

A. The measurement of the gas is the last operation.

.

The Court: Mr. Schmidt, I think I understood some one—[fol. 2310] I don't remember who it was—to say that sometimes gas is moved north through your line into Oklahoma and at other times moved south from Oklahoma into Texas. Is that correct?

A. Well, that could happen, Judge, under very unusual conditions.

The Court: Well, does that happen? I thought I understood it, but maybe I misunderstood it. I am not saying that anybody did say it.

A. I can't say that it ever happens.. I don't believe so.

The Court: All right. I may have misunderstood it.

Mr. Griffith: I think I know what the Court has in mind.

Direct examination resumed.

Questions by Mr. Griffith:

Q. Mr. Schmidt, refer, please, to the map introduced in evidence, styled 29. If you refer to the line running north from Denison, Texas, to Durant and Caddo, Oklahoma, is gas moved forward from the State of Texas into the State of Oklahoma to supply Durant and Caddo, Texas.

A. That is correct.

Mr. Fitzhugh: You said Caddo, Texas.

Mr. Griffith: I meant Caddo, Oklahoma.

Q. Gas also moves north in the company's pipe line system in the State of Texas to a point near Paris, Texas, into the State of Oklahoma, to supply the town of Hugh? [fol. 2311] A. That is correct.

The Court: Now, so everybody will understand me, I understand you to say now, so far as you know, there is no line in which and through which gas some days moves south into Texas and on other days in the same line is moved north into Oklahoma?

A. That is correct.

Q. Of course, in the case of a line break or an emergency gas can be transported north through the pipe lines?

A. Yes; it can move in any direction in the case of an emergency.

Cross-examination.

Questions by Mr. Fitzhugh:

Q. Now, Mr. Schmidt, the line of Texas gas from Wheeler County, Texas, the Shamrock field, south to supply the towns of Wichita Falls, Dallas and Fort Worth and other towns in Texas is known as Line A?

A. That is correct.

Q. Now, then, the most direct route from the center of the Shamrock field to intersect the lines of the company near Quanah, Texas, would not pass through the State of Oklahoma, would it?

A. I think it would.

Q. It would?

[fol. 2312] A. Yes, sir.

Q. Show on the map here how you think that direct route would ever pass through the State of Oklahoma?

A. From the east part of Wheeler County to Quanah you can take it in the most direct line and it will cut through the corner of Oklahoma.

Q. Here is the corner of the State of Oklahoma, isn't it?

A. Yes, sir.

Q. A line could be constructed to intersect the line at about this point north of Quanah that would cut the center of the Wheeler County field and take a direct route without passing through the State of Oklahoma?

A. No, the straight line you drew cuts into Oklahoma; you are cutting it now.

Q. Well, it could very easily miss the corner of Oklahoma?

A. No, sir, not with the excavating we would get on that line, which I will be glad to explain.

Q. You are acquainted with all this country in Texas here (indicating on map)?

A. Certainly.

Q. What is the character of excavation the company would encounter in putting a line in there?

A. In Collingsworth County, particularly in the northern part of the county, we would encounter country that is quite badly washed, gulches and ravines, which is very difficult and expensive for the construction of an eighteen inch pipe line. South of there, in Childress County, south of Prairie [fol. 2313] Dog Fork of the Trinity River, you get into a territory——

The Court: Do you mean the Trinity River?

A. No, I believe it is——

The Court: That is a long ways from home. It is the Prairie Dog Fork of the Red River.

A. Yes, it is the Prairie Dog Fork of the Red River. South of the river the territory is largely blow-sand; in

ther words, it is sane that is not stable; it moves with high winds, and a line constructed through that territory might be uncovered any time by a heavy wind, which would be very dangerous for a high pressure line, and the next day it might have ten feet of sand on top of it.

Q. Are you still talking about Collingsworth County?

A. No, I said Childress County.

Q. Now, then it is a fact that all the creeks and rivers that originate in Collingsworth County and Childress County flow east?

A. No, sir.

Q. It is not?

A. No, sir. The main rivers flow east.

Q. Well, this fork of the Red River does?

A. Yes.

Q. So if you put your line through Oklahoma, as you have, you would encounter the river at a downstream point?

A. Yes, sir.

Q. And your river crossings would be larger, wouldn't they?

A. No, sir.

[fol. 2314] Q. Well, as a general thing you expect a smaller creek at the source of a river than you do farther down?

A. Yes, sir, but not on these rivers.

Q. Well, isn't it a matter of fact, Mr. Schmidt, that you encounter just as much bad crossings and doesn't it show in your inventory on Line A that in Oklahoma you would encounter as much as you would encounter in this part of Texas?

A. No, sir; it is not.

Q. Now, this sand you speak of is easy of excavation?

A. Well, to lay a pipe line through it you would have to remove some of those sand hills entirely.

[fol. 2315] Q. Well, it is easy excavation though, isn't it?

A. Well, it is easy excavation but it is very hard to keep ditch in that sandy territory from caving on you.

Q. It is much easier territory to run a ditching machine in and to do the ditching than in territory where you will encounter considerable rock, isn't it?

A. Yes, it is easier for the ditching machine, but it is not less expensive, I would say, on the total construction of the pipe line.

Q. Now Mr. Schmidt, you are an engineer; don't you know as a matter of fact that you could construct a line

through Collingsworth and Childress counties, Texas, to intersect this line near Quanah, at considerably less cost than you did construct it to run through Oklahoma?

A. I know as a matter of fact that you could not.

Q. And that is your sworn testimony?

A. I swear to it.

Q. You do know as a matter of fact that you encountered considerable rock in that line as it was actually constructed into Oklahoma, do you not?

A. We found some rock along that line, yes, and we would have had some on the other line, too.

Q. Well, you had considerable rock, didn't you?

A. We had quite a little rock, yes.

Q. Now then, Mr. Schmidt, as is shown by your map, anybody can see that this line takes a fairly direct line to the [fol. 2316] Oklahoma line from the field?

A. Yes.

Q. If you ran it as straight to the line as you could have gone, just as straight a line as you could have gotten there, you wouldn't have saved but about two miles, would you?

A. I would say about two miles.

Q. Now, after it goes into Oklahoma, it is inside of Oklahoma about how much?

A. Oh, from nothing up to about four miles.

Q. And at the very farthest point, it is not more than four miles in Oklahoma?

A. Something like that.

Q. It almost parallels the Oklahoma line, doesn't it?

A. That's right.

Q. Now you were the general superintendent or the chief engineer or something like that for the Lone Star Gas Company at the time the line was built, were you not?

A. I was.

Q. You were there at all the conferences where the discussions as to the construction of this line took place?

A. Yes.

Q. Don't you know, as a matter of fact, Mr. Schmidt, that the line was designed to run through Oklahoma for the express purpose of trying to make an interstate line out of it?

A. I know that that was not discussed.

Q. That is your sworn testimony?

A. Yes.

[fol. 2317] Q. Do you mean to say, Mr. Schmidt, that at the discussions about the building of this line there was no mention made as to the legal advantages that would attach to the building of this line through Oklahoma?

A. That is correct. That line was constructed entirely on engineering principles, and nothing else.

Q: Do you mean to say, Mr. Schmidt, that you never had a conversation with Mr. Griffith or the other legal advisors of the company, where that was discussed?

A. That's what I said.

Q. All right now, the next line east of line A, which you say brings gas from Oklahoma into Texas, is Line H, and I believe Second H, which parallels H?

A. That is correct.

Q. I believe Mr. Connor said that they expected to take up, some time within the near future, one of these H lines. Is that right?

A. That's right.

Q. You expect to leave one of them, do you?

A. Yes, we may recondition the line and put it back in place.

Q. Now then, Mr. Schmidt, is it your testimony that no gas ever travels North from Texas into Oklahoma in either Line H or Line Second H?

A. That is correct.

Q. Never does?

A. Except under extreme conditions or emergencies; [fol. 2318] such as a break in the line some place north of the river; and we have to take gas up there to supply perhaps Temple, or some town in the south of the state of Oklahoma.

Q. There have been times, have there not, when gas has moved North into Oklahoma from Texas thru those lines?

A. To my knowledge, that has never happened?

Q. Do you know about it?

A. Yes, I know.

Q. You are positive what you are talking about?

A. Yes.

Q. And you are willing to say that at no time has there ever been a movement in either Line H or Line Second H, north from Texas into Oklahoma?

A. That's right.

Q. Now, on Line G, which is the next line east of H and Second H, I believe you say that gas has passed from Texas into Oklahoma through that line?

A. Well, the same thing is true there as of Line H. It would only be in the case of an emergency.

Q. Well, has there ever been any movement of gas from Texas into Oklahoma?

A. Well, I believe on that line there has been at times, when gas moved into Oklahoma.

Q. There has been on Line G?

A. Yes, but it was only in case of a break, and lasted for a very short time.

[fol. 2319] Q. Now, what is the line just West of H and Second H, that goes from Texas into Oklahoma?

A. That is A-1.

Q. Line A-1?

A. Yes.

Q. Now, Mr. Schmidt, through Line A-1, the gas always moves from Texas into Oklahoma, doesn't it?

A. That is correct.

Q. What is the line just east of Line G?

A. Do you refer to the line going into Oklahoma from Texas?

Q. Yes.

A. That is E-5.

Q. On Line E-5 the gas always moves from Texas into Oklahoma, doesn't it?

A. That is correct.

Q. What is the next line, just east of that line?

A. Line E-16.

Q. On Line E-16, the gas always moves from Texas into Oklahoma does it not?

A. That is correct.

Q. Is there a single town in the state of Texas, Mr. Schmidt, that doesn't receive some Texas gas some of the time?

A. Oh, yes.

Q. Which town?

A. Well, all the towns on Line A, west of Petrolia; they receive gas from the Shamrock field, through Oklahoma into Texas.

[fol. 2320] Q. Well, isn't all the Shamrock gas Texas gas?

A. It is produced in Texas, yes.

Q. All those towns use gas exclusively from the Shamrock field, do they not?

A. Yes.

Q. Which is Texas gas?

A. That's right.

Q. Now is there a single town in Texas that doesn't get some Texas gas, Gainesville included?

A. Yes.

Q. What towns?

A. Petrolia and Byers.

Q. Isn't Petrolia and Byers right in the Petrolia field, in the state of Texas?

A. Yes, but it gets its gas from Line H and Second H.

Q. Well, isn't that mixed with some of the Petrolia gas?

A. No, sir.

Q. How big is Petrolia?

A. The town of Petrolia?

Q. That's the place where they say they don't even have a hotel any more, isn't it?

A. Oh, I think you can get a room.

Q. Oh, have they built that hotel back again?

A. No, they haven't built it back again, but you can get room and board there.

Mr. Griffith: You are referring to the town of Petrolia and not the company's compressing station?

[fol. 2321] A. Yes, and I presume that is what you are talking about, isn't it, Mr. Fitzhugh?

Q. Yes.

A. The town of Petrolia has a population of 806.

Q. How much is Byers?

A. 621.

Q. So there's about a total population then, of 1600 people in the State of Texas, that never get any Texas gas. Is that right?

* * * * *

A. That's right.

Q. Now it has already been testified to in this case, Mr. Schmidt, that all the gas stored in the Miller lease at Petrolia comes from Line H and Line Second H. That is correct, isn't it?

A. Well, I don't know what the testimony was.

Q. Well, you know what the facts are, don't you?

A. Yes.

Q. Well, what are the facts?

A. Well, that gas—not exactly 100 per cent of it comes from Line H and Second H.

Q. If there is any previous testimony to that effect, then, it is in error, is it?

[fol. 2322] A. I would say it is in error to some extent, yes.

Q. Where does that gas come from that is stored on the Miller lease?

A. Most of it comes from that source, but some of it comes from the Shamrock field, and some of it is Petrolia gas itself.

Q. Now, the gas on the Miller lease is used up during the winter months. Isn't it stored in the summer and used up again in the winter?

A. Not always.

Q. Well, there is no seasonal proposition about that Miller lease then, is there?

A. No sir; some times we put it in and take it out, at the same time.

Q. Now all the gas that comes through Line A goes through the compressor station at Petrolia, does it not?

A. Not all of it. There are times during the summer time when Petrolia is by-passed, and gas from Line A goes direct down into the lines south of Petrolia.

Q. But most of the time that gas does go through the compressor plant, doesn't it?

A. Yes, a good share of the time it does.

Q. And the pressure is what, when it comes into the Plant?

A. That varies from about 250 pounds, to about 100 pounds, or 110, something like that.

Q. And when it leaves the plant, what is its pressure?

A. That will vary too, from around 250 pounds to 300 pounds or 325.

[fol. 2323] Q. Is there a gasoline plant at Petrolia, Mr. Schmidt?

A. Yes.

Q. Does all the gas that comes through Line A go through that gasoline plant?

A. No, sir.

Q. It does a good bit of the time, though?

A. No, sir.

Q. Or a great part of the time?

A. No, sir; it doesn't.

Q. Where do you get the gas that you get your gasoline from?

A. From the Petrolia field, and from the Oklahoma fields, north of Petrolia.

Q. From Lines H and Second H?

A. That's right.

Q. Now, what is done at the gasoline plant?

A. At the gasoline plant, certain heavy hydrocarbons are removed and condensed by a method known as an absorption method, and the gas enters the bottom of large cylindrical tanks and comes in touch or in contact with a petroleum oil known as mineral seal oil, which has a high attraction for the hydrocarbons, and by means of this contact the hydro-carbons are then absorbed and the gas passes out of the absorbers directly into the line again, with no interruption.

Q. Through Line H and Second H, you bring the gas about a hundred miles from the fields in Oklahoma into the State of Texas, to the gasoline plant, where you extract the volatile gases or gasoline?

[fol. 2324] A. It's not 100 miles; it's about 60 miles.

Q. The scale on your map would show about 100, wouldn't it?

A. Yes, from Chickasha it would be about one hundred miles; you are correct.

Q. Now, after the volatile gasoline, or the heavy hydrocarbons, as you want to call it, is absorbed, the residue gas that is left is of a different composition, isn't it?

A. The composition is practically the same. There is such a small proportion of these hydro-carbons removed, that the composition is almost identical.

Q. When you extract gasoline vapors from natural gas, that is present in the line before it goes to the gasoline plant, and then pass on through the residue gas, it has a different heating value, doesn't it?

A. The heating value is lowered by possible three per cent, but that is not the entire facts of the matter, because most of these hydro-carbons would condense in the lines anyhow, and you would have the same condition, besides giving us considerable operating troubles; these gases freeze up and cause stoppages in the line.

Q. You could take out the gasoline vapors by drips, couldn't you?

A. We could at considerably more expense, and possibly we would not get it all anyway.

Q. But the main reason for putting in a gasoline plant, is to make money out of the gasoline, isn't it?

A. We haven't made any money out of them for many [fol. 2325] years; the main reason is to make the gas more suitable for domestic consumption.

Q. At the time you built these gasoline plants, gasoline was selling pretty high, and you made a pretty nice profit on that gasoline at that time?

A. On some plants we made a profit, yes, but on some of them we never made a profit.

Q. Now, the gas that comes from Line G goes through a gasoline plant at Gainesville, doesn't it?

A. That is correct.

Q. And the same sort of process takes place at Gainesville as you described as to the Petrolia plant, for the treatment of the gas coming through Lines H and Second H?

A. That's right.

Q. Now, those three lines, H and Second H and Line G, bring all the gas that is produced in Oklahoma, do they not?

A. That is right.

Q. And it is all processed at gasoline plants?

A. It all passes through gasoline plants, and these hydrocarbons are removed from the gas in order to make the gas more suitable for domestic consumption.

Q. And all this gas is also recompressed, isn't it, in the case of Lines H and Second H, at the compressing station at Petrolia?

A. That is correct.

Q. And at Gainesville, in the case of Line G?

A. No, the compressing station at Gainesville is only used to compress the gas going east through line E.

[fol. 2326] Q. It does occasionally pick up some Oklahoma gas, doesn't it, for compression?

A. It does not pick up all the gas from Oklahoma, no sir.

Q. Some of it.

A. Sometimes it does pick up some of it.

Q. And it does compress a certain part of that Oklahoma gas, does it not?

A. Yes, the part going through Line E, which is only a small part most of the time.

Q. Now, referring to your Exhibit 44, on the page headed year 1929, you show 8,785,166 M. C. F. for the total for Oklahoma fields?

A. That is correct.

Q. And for 1933, on the sheet that you show for 1933, the total from the Oklahoma fields is only 1,690,342 M. C. F.?

A. That is correct.

Q. What has been the average falling off per year of this Oklahoma gas?

A. Do you mean the average amount taken from the source?

Q. I mean how much has it dropped off by years, since 1929, on the average?

A. Well, it varies; there seems to be a gradual reduction in the amount of gas that we have taken from that source.

Q. Well, it has dropped off about 1,750,000 M. C. F. per year, hasn't it?

A. Something around that, yes.

Q. Now, if it keeps dropping off at the same rate for the [fol. 2327] year 1934 you won't have any Oklahoma gas, will you?

A. If that continues, sure.

Q. Or a very little amount. In the year 1933 what was the total amount of gas used in Oklahoma?

A. Something over a billion cubic feet, total gas used in Oklahoma.

Q. Is that industrial as well as domestic?

A. That is all gas, yes.

Q. Can you by referring to the exhibit give the exact figure?

A. No, sir; that doesn't show all the gas used in Oklahoma.

Q. It doesn't show Hugo, Oklahoma, does it?

A. No, sir.

Q. Or Durant, Oklahoma?

A. No, sir; it does not.

Q. Or Caddo?

A. That is correct.

Q. Or Achille?

A. That's right.

Q. And how much did those towns use in the year 1933?

A. About 300 million.

Q. Why was it that you didn't include those towns?

A. Well, those towns get the gas off of Line E, which can be either at some times entirely Texas gas, and sometimes entirely Oklahoma gas, and sometimes a mixture.

Q. Well, you did include Mountain Park and Manitou and Frederick and Tipton and some other town there that I [fol. 2328] don't know the name of, that used exclusively Texas gas, didn't you?

A. Yes, but that gas was transported from Texas into Oklahoma and back into Texas, and finally into Oklahoma again.

Q. Well now, Durant and Hugo and Caddo and Achille also get exclusively Texas gas, don't they?

A. No, sir.

Q. Well, if they don't, they get some gas that comes from Oklahoma do they not?

A. Yes, they get some from Oklahoma.

Q. Do you know the amount of gas used in Oklahoma, for the year 1933, from all sources?

A. I don't have the exact figure, but it is slightly over a billion feet.

The Court: You mean as affecting the Lone Star Gas Company, don't you?

Q. Yes. Now, if you take the total Oklahoma delivers as appearing on your sheet 6, where you have the notation, "Note 1", and the total delivery of Shamrock gas into Oklahoma where you say "See Note 2", and add to that the 300 million cubic feet for Hugo and these other towns, you would have a total of about 1,200,000 M. C. F. wouldn't you?

A. Something around there, yes.

Q. For 1933?

A. Yes.

Q. How much is the total amount of Oklahoma gas put into storage at the Miller lease for 1933?

[fol. 2329] A. I haven't any figures on that.

Q. Well now, if it was 500 million cubic feet, the amount that has already been testified to in this case—Well, I may be in error about that, because I don't believe it has been testified to, but if the amount is about 500,000,000 cubic feet for stores gas, plus the 1,200,000 for gas used in Oklahoma, you would have had all the gas used in Oklahoma accounted for, wouldn't you?

A. No sir.

Q. Well, you certainly would for the year 1933, wouldn't you?

A. I don't know what the testimony is, but gas that went into storage on the Miller lease undoubtedly was again removed during some part of the year 1933.

Q. Well, if you assume for the purpose of this question, Mr. Schmidt, that the storage, the net storage on the Miller lease was 500,000 M. C. F. for the year 1933, that would account for all the Oklahoma gas, wouldn't it?

A. Why not assume a million instead of 500,000?

Q. Well, what was the correct amount of that?

A. I don't know.

Q. Can't you estimate, Mr. Schmidt, what the amount of gas was from Oklahoma for the year 1934 will be?

A. No, sir.

Q. Do you know then what it is thus far in 1934?

A. No, I do not. I would say that it is very apt to be considerably in excess of what is shown in 1933, from our [fol. 2330] operations of this year, for the first six months.

Q. Would you still say that, if you didn't have a rate case going on, Mr. Schmidt?

A. That is the condition that exists.

Q. Do you know, Mr. Schmidt, whether or not for the year 1934 there will be as much gas produced in Oklahoma as will be consumed in Oklahoma?

A. Yes. Oh, yes, there will be more gas produced in Oklahoma than is consumed in Oklahoma.

Q. How much more?

A. I have no idea. I have no way of figuring that.

Q. Now, you say that the forward movement of this gas, Mr. Schmidt, is never arrested?

A. That is correct.

Q. Mr. Schmidt, you know good and well that gas which is stored at the Miller lease is arrested; isn't it?

A. Not necessarily. That gas is very often put into one well and taken out of another. It just circulates through the sand.

Q. Then what is the use of doing that. It costs you something to put it in there?

A. Yes.

Q. And it costs you something else to get it out?

A. Yes.

Q. What is the purpose of doing it?

A. One of the purposes is to take some gas from contracts wells that we would not otherwise be able to do in the summer months, and another reason is to saturate that gas with the gasoline vapors in the Petrolia field, and later to extract them from that gas.

Q. Now, you have to repressure every cubic foot of gas that you put into wells at the Miller lease, don't you?

A. Yes.

Q. And you have to in some cases use suction to get it out, do you not?

A. Yes.

Q. Now then, the forward movement is to some extent checked whenever the gas passes through a gasoline plant too; isn't that correct?

A. It is not.

Q. Well now, you know that it is stopped to some extent, don't you, Mr. Schmidt?

A. It does not stop at all.

Q. Well Mr. Schmidt, does the whole gasoline process not depend upon arresting the forward movement of that gas, and getting it into a static condition, where the vapors can be condensed out?

A. No sir; as I said before, the gas enters the bottom of these large tanks, through openings sufficient to carry the capacity of the pipe lines, and that gas passes up through these tanks and out the top, and right back into the pipe line, without any interruption whatever.

Q. What is the diameter of those tanks?

A. Generally about thirty inches.

[fol. 2332] Q. And what is the diameter of the pipe line, generally? About eighteen inches, isn't it?

A. That's right.

Q. And doesn't that allow an expansion of the gas, in those cylinders or tanks?

A. Yes, to some extent.

Q. And of course there is a forward process, but you do arrest the movement of the gas forward, long enough to get the gasoline out of it?

A. No. It is never stopped—never stopped.

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[fol. 2333] Q. Mr. Schmidt, how much gas was lost in the year 1933 from the Company's system through leakage?

A. I haven't any figures available here upon that.

Could you approximate it?

No, I really couldn't.

Could you for 1932?

No, sir.

Do you know approximately the percentage of gas

Why, it varies, of course. The percentage on our
them is rather small, possibly not more than two per

Now, if I understand you, Mr. Schmidt, you are not
to say the amount of gas that was actually consumed
Oklahoma in the year 1933?

The total amount of gas consumed?

Yes, sir.

It was slightly over a billion cubic feet in 1933.

Was it in excess of 1,200,000,000?

No, it was less than 1,200,000,000.

And you don't know the amount of Oklahoma gas that
put in storage in Texas?

No, sir.

2334] Q. That is the net storage I am talking about.

No, sir, I do not.

And you don't know whether those two exceed the
unt of gas actually consumed in Oklahoma—produced
purchased, I mean, in Oklahoma for the year 1933?

Well, I am sure that they don't.

Well, you don't know the figures, do you?

Well, I have given credit in '33 to gas sold in Okla-
a that is produced in Texas; according to your state-

t. All the towns on the Frederick System, some—

Well, can you give the net amounts?

Yes, sir, the gas consumed in Oklahoma off of Line A
479,551,000.

Are you talking about Line A-5 now?

A-5, at Hollis.

All right; now, what was used by the Oklahoma towns
ines H and Second H?

334,938,000.

And how much was used on Line G?

That is the total of Lines H and G, the last figure that
ned.

How much was used on Line E-5?

Just a second; I have misinterpreted this entirely.
gas deliveries in Oklahoma from the A System is 334,-

938,000, and the total deliveries in Oklahoma from the H [fol. 2335] and G System is 479,551,000.

Q. Now, how much were the deliveries from Line E-5 and E-16?

A. Around 300,000,000 feet, as I recall it.

Q. What was the total amount produced in 1933 and purchased in Oklahoma?

A. 1,690,342,000 from the Oklahoma fields directly.

Q. Now, then, if you take the 1,115,000 which these figures add up to be, plus 500,000 for storage, you will account for practically the whole of the 1,690,000 M. C. F. produced and purchased in Oklahoma, will you not?

A. No, sir.

Q. Why won't you?

A. Because 334,938,000 was produced in the Shamrock area and transported into Texas and back into Oklahoma.

Q. Well, if you consider the net amount of gas used in Oklahoma, my statement would be true, would it not?

A. No, sir.

Q. Well, as a matter of fact, Mr. Connor, the thing adds up that way—

A. No, sir, it doesn't.

Q. I mean Mr. Schmidt. It adds up that way, regardless of whether you exclude the Shamrock gas or not?

[fol. 2336] A. Not according to my figures.

Q. Well, if you add three hundred thousand, which you say is to be attributed to these Oklahoma towns you didn't include, and the four hundred and seventy-nine thousand for the H and G System, and the three hundred and thirty-four thousand for the A System, doesn't that all add up to about one million one hundred and fifteen thousand used in Oklahoma?

A. Yes, but all of that gas wasn't produced in Oklahoma.

Q. Well, regardless of that fact, it is consumed in Oklahoma, isn't it?

A. I beg pardon.

Q. It is consumed in Oklahoma, isn't it?

A. Yes, sir.

Q. Now, then, if you add to that the five hundred thousand M. C. F. that is stored in Texas, you will get the total amount, approximately, produced and purchased in Oklahoma, will you not?

A. I don't know whether the five hundred thousand is anywhere near right as representing—

Q. Well, assume that is right, I say, for the purposes of this question,—you would then get the total amount produced and purchased in Oklahoma, wouldn't you?

A. Well, it is entirely a hypothetical question, and I don't see that it has anything to do with it.

[fol. 2337] Q. Well, just answer the question, Mr. Schmidt, even if you don't want to.

A. Those figures total about the same amount, yes, sir.

Q. All right.

Redirect examination.

Questions by Mr. Griffith:

Q. Mr. Schmidt, you were asked about the surveys on Line A, and your familiarity with that territory generally wherein Line A is located. I wish you would relate to the jury your general familiarity with the country and the surveys that were made for the location of the pipe line route where Line A is now situated.

A. I had charge of all of that work—all of the surveys, and went over all of the surveys that were made, personally, on the ground. Recently I took the field-notes which our engineers made on the various surveys that were made covering this line, from a point near Quanah to the Texas—to the Shamrock Field. I platted those lines on a map, which I have before me. The original survey started from a point near Quanah and headed northwest to a point near Childress, [fol. 2338] and at that point it started—in fact, we staked that line, made the survey and staked the line to that point, and we ran a fly line from that point north—almost due north, to the east side of the Shamrock Field—

Q. What do you mean by a fly line?

A. A fly line is a line that you don't stake—you run the course of the line with instruments, by flagging high spots along the route, and from those high spots you can travel along the route that the line would go. That survey on the south end, just north of Childress, getting up into the Prairie Dog Town Fork of the Red River went through some fairly rough country—that is, it was full of bad washes; and from Prairie Dog Town north we got into a good many sand hills. By the time this fly line was completed we found out that we were not going to supply gas to the town of Childress—another company had already received the franchise both at Childress and Wellington,

and the route was not a very suitable route for a pipe line, and it was considerably longer than a route passing more directly from Quanah to the Shamrock Field. We abandoned that survey and dropped back to a point just west of Quanah, and started a line almost direct, you might say [fol. 2339] to the town of Shamrock, which was then about the eastern part of the field. The first line we ran hit the Prairie Dog Town Fork of Red River quite close to the corner of the State of Oklahoma, and at that particular point the river was 7,238 feet wide; it was a very bad crossing, the river at that point, during flood stage, might be on one side of the river one time or on the other side the next, or maybe in the middle—it just traveled back and forth; that river is composed, largely, of quicksand, and quicksand is not a very good foundation for a pipe line. This was such a poor crossing that we immediately found that it was going to be necessary to make a pretty complete survey of that river, and we made surveys up and down the river, east and west, for a stretch of approximately nine or ten miles. The best crossing that we could find was at a point where our line now crosses Prairie Dog Town Fork of Red River, and that is about four or five miles east of the Oklahoma State line. At that point the river was only 1334 feet, downstream from the point which I just mentioned was 7238 feet wide. The banks of the river at this point, particularly on the south side were partly rock, where very substantial foundations could be secured; and [fol. 2340] we built a bridge across the river at that point to carry the pipe line. That determined the south end of that line, and was still on a direct route from the point west of Quanah to Shamrock. We made three different surveys from that point up through Childress County and Collingsworth County to the Shamrock Field; each of them was rather bad territory for a large diameter pipe line,—sand hills in Childress County and the southern part of Collingsworth County, and a very rough country in the northern part of Collingsworth County.

Q. Does that sand consist of the blow sand which you have previously described?

A. A good share of it was the blow sand which I have described. We traveled that country east and west, trying to find a better location for a pipe line, and we found by going almost due north from the point that we crossed

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prairie Dog Town Fork of Red River entering Oklahoma, particularly after we passed the Salt Fork of Red River, we got down to a divide or a hog-back, as they call that country.

Sometimes referred to as a ridge?

A ridge. And it was extremely good right of way [2341-2342] for a pipe line, ever so much better than the survey we made through Collingsworth County or Cress County; and, as a matter of fact, that survey through Oklahoma and back into Texas increased the length of the shortest line that we could have laid from Quanah to the Panhandle—to the Shamrock Field less than 100 miles in length, and the territory covered by the line as it is now located required so much less right of way and was ever so much easier for pipe line construction, the increased length was easily compensated for by the reduction in cost of laying the line.

And for the reasons you have detailed, Line A was in its present location?

That is the only reason Line A was laid in that direction.

Now, were there any other reasons which dictated the judgment of yourself and associates in the location of Line A?

* * * * *

[2343] A. Line A cuts a corner of Beckham County, enters the *the* State of Oklahoma, and in Beckham County at the time this line was laid there was considerable production of gas in what is known as the Sayre Field. The production was high pressure gas, and the line located as it has been located will make that gas accessible to that line at a lower cost at some future date when it is necessary that it be located. It could have had the line been located direct from Quanah to the Shamrock Field. Since the line has been built other production has come in in Beckham County even closer to the line—not enough as yet to indicate the size of the field, but there are indications that there may be an extensive field close to our line of high pressure gas. This well has a flow of about 14 million feet, and about 1000 psi rock pressure, and that higher rock pressure makes it somewhat more desirable than the gas in the Shamrock area.

Q. Does the Company own any undeveloped gas acreage in this Sayre gas territory?

A. They do own considerable gas acreage held in reserve [fol. 2344] in that territory.

Q. Now, was the Company conducting any drilling operations in any other county in Oklahoma adjoining Line A at the time it was constructed?

A. In Harmon County, which is due south of Beckham County, and the county in which Hollis is located, the Company drilled two wells about that time. It so happened that both of them were dry holes, but I understand from geologists that that territory still may be productive of gas.

Q. At the time Line A was built the Company was hopeful of getting some gas production from these wells which were drilling in Harmon County, Oklahoma?

A. That is correct.

Q. Mr. Schmidt,—possibly you have already testified to this—but is the forward movement of the gas transported through the state of Oklahoma into the state of Texas ever arrested until delivery is made to the local distributing companies at the city gate measuring stations?

A. It is not.

Q. One more question, if the Court please. Mr. Schmidt, what is the line capacity, or the delivery capacity of Line A?

A. Line A, about fifty-five million.

Q. For what period of time?

A. For twenty-four hours.

Q. Fifty-five million cubic feet in a twenty-four hour period?

A. That's right.

[fol. 2345] Q. What is the capacity for Line H and Line Second H in a period of 24 hours?

A. Fifty million per day.

Q. What is the delivery capacity of Line G over a period of 24 hours?

A. Fifty-five million, or fifty-six million.

Q. That could be in round figures, 160 million cubic feet of gas a day?

A. That is correct.

Q. Has the Company actually transported that amount of gas through those lines in recent years?

A. They have.

Q. On a daily basis?

A. Yes, sir.

Q. Has the utilization of Line A, Line H, Line 2nd H, and Line G been necessary to enable the Lone Star Gas Company to supply the gas required for industrial and domestic consumption by consumers in the numerous towns and cities supplied at wholesale by it in the State of Texas?

A. They certainly are.

Q. In times of extreme cold weather are all of those facilities needed to supply the demands put upon the public service facilities of the Company?

A. In times of severe cold weather those lines are carried to capacity.

[fol. 2346] Q. Mr. Schmidt, is there any compressor station on Line A between the Shamrock Field and the Petrolia Compressor Station at Petrolia, Texas?

A. There is not.

Q. Does the gas travel under high pressure from the wells to the Petrolia Compressor Station?

A. That is correct.

Q. And you have previously testified that the gas so transported does not go through a gas drier or gasoline plant at Petrolia—

A. That is correct.

Q. —in the ordinary conduct of its business?

A. That is right.

Q. Is a gas drier application given to that gas transported through Line A in the state of Oklahoma?

A. Yes, sir; at Hollis, Oklahoma.

Q. At Hollis, Oklahoma?

A. Yes, sir.

Q. That is where the gasoline hydrocarbons are removed from the Shamrock gas?

A. That is correct.

[fol. 2347] Recross-examination.

Questions by Mr. Fitzhugh:

Q. What was the average amount of deliveries through Line A for 1933?

A. Well, the average amount through Line A was probably rather low.

Q. Do you know what it was?

A. In 1933?

Q. Yes.

A. I can calculate it.

Q. Well, approximate it?

A. Something in excess of twenty million feet a day.

Q. What were the average deliveries through lines H and 2nd H?

A. Something in excess of two million feet a day.

Q. What were the average deliveries through Line G?

A. A little less than three million feet a day.

Q. What were the average deliveries through Line A-1 six-inch?

A. I haven't the figures to show that.

Q. What were they on Line E-5?

A. I haven't any figures on that.

Q. What were they on Line E-16?

A. I haven't any figures here to show that.

Q. Well, you will admit, won't you, that there is no relation at all between the actual deliveries that may come through these lines and what their capacity is?

[fol. 2348] A. Oh, a very definite relation,—the necessity of having the capacity to take care of our peak demands.

Q. Well, the capacity of Line H and Line 2nd H, I believe you said, was around 50 million cubic feet per 24-hour period?

A. That is correct.

Q. But your average actual deliveries through that line were only two thousand—

Mr. Griffith: Two million.

Q. —M. C. F. per 24-hour period?

A. That is about right.

Q. Now, then, you say your Company has a few leases over in Oklahoma in Beckham County?

A. Yes, sir.

Q. I will ask you, Mr. Schmidt, if the holdings of the Company in Beckham County,—or for that matter in all the Oklahoma counties anywhere close to Line A,—are not insignificant as compared with the leases you hold in Gray County, the county just west of Wheeler County?

A. I don't know.

Q. Do you know the amounts of your leases in Gray County, Texas?

A. I know approximately what we hold there—not in figures; but I know we have considerable holdings.

Q. You have very extensive holdings in Gray County, do you not?

A. Yes, sir.

Q. And compared with those extensive holdings in Gray [fol. 2349] County, the Oklahoma leases you have are very insignificant?

A. So far as the volume of gas contained under those leases, I don't know whether they are insignificant or not.

Q. It is, from an acreage standpoint, isn't it?

A. That is no basis necessarily of the gas under the ground.

Q. It is a well-known fact that the Wheeler County, or the Shamrock Area, represents probably the biggest gas field in the world?

A. Not the Shamrock Area, no.

Q. This Panhandle Field up here is generally recognized by geologists as being the biggest gas field in the world, isn't it?

A. It is one of the largest; there are others that they feel are just as large.

Q. If you had built your Line A so as to get to the wells you now have and hit the center of those wells, together with those you expect to develop in Gray County, your line would have come down following the county lines of Wheeler and Collingsworth counties due south, wouldn't it, so as to split those leases?

A. I don't believe I understand your question.

Q. If you had wanted to construct a line, Mr. Schmidt, that would hit these leases that you already have developed in Wheeler County, as well as to provide an outlet for the leases you expect to develop in Gray County, your line would have come down along the western lines of Wheeler and Collingsworth Counties?

[fol. 2350] A. That would have lengthened our line a great deal—the original line.

Q. Now, you say you worked out a plan for a line wholly in Texas. What was the length of that line as compared with the one you finally did build?

A. That line from a point at Quanah to the same point—that is, from a point here to a point here (indicating on map)—that line was 82½ miles, compared to 72 miles in that direction.

Q. You don't mean, Mr. Schmidt, that this line as it has been run would be shorter than a more direct line down here (indicating on map)?

A. It is ten miles shorter.

Q. Point out how your line ran. Did your line run from Quanah practically due west to Wheeler County?

A. No; it ran northwest from a point west of Quanah to a point northeast of Childress where it went almost due north to a point at the gathering system in the Wheeler County area.

Q. But there is no doubt, Mr. Schmidt, if you had taken a direct or air-line route from a position about the southwestern corner of Wheeler County direct to Quanah, you would have gotten a shorter line?

A. No; a longer, because you went farther west with the beginning of your line, and you can't go farther west without lengthening the line.

Q. You would not have had all this bulge in here?

[fol. 2351] A. That bulge in that line as it goes now is less than three miles longer than a perfectly straight line from up there to Quanah.

Q. Are you trying to say that if the line had been built straight down from the center of the Wheeler County area, in a route wholly in Texas, to a point a little north of Quanah, that it would still be longer than the route you followed?

A. I say it would not have been more than two miles shorter.

Q. Well, it would have been that much shorter?

A. It would have been shorter by that amount; but it would have cost us considerably more to construct, because of the rock.

Q. How much rock excavation did you find from your preliminary survey that the wholly in Texas route would have had?

A. Well, we didn't make any excavations.

Q. Didn't you study what your excavation costs would have been?

A. Yes, sir.

Q. How much rock did you figure?

A. We had considerable rock.

Q. Well, how much?

A. You mean in yards?

Q. Yes.

A. I haven't it in yards.

Q. What per cent of the total excavation would have been rock?

A. I could not estimate it now. It has been a good many years *years* since that line was laid.

[fol. 2352] Q. Doesn't anybody who pretends to know anything about pipe and the deterioration of pipe know that pipe laid in this sandy land of the Panhandle area of Texas suffers less deterioration than any pipe anywhere else in the world?

A. We have sandy land on the present location.

Q. Just answer the question.

A. Sandy land is ordinarily easy on pipe.

Q. Instead of laying it in sandy land in Texas you got on this ridge in Oklahoma and laid your line thru gyp-rock?

A. We would have had gyp-rock in the other counties to the same extent.

Q. And gyp-rock is just about the worst soil there is for steel deterioration?

A. As a matter of fact, we had more real soil on the survey finally adopted than on any survey through Collingsworth County.

Q. Can you tell us how much gyp-rock you would have found on the route fully in Texas?

A. We would have found considerable.

Q. How much in percentage?

A. I couldn't tell you.

Q. Did you make any surveys?

A. Yes, sir.

Q. Well, can't you tell us the amount?

[fol. 2353] A. I would say it was at least as much as we got in the other survey. On either side of this ridge we traveled the gyp-rock is a lot worse than on the ridge we were on; I know that is a fact.

Q. You say on the final river crossing you went farther down stream?

A. Yes, sir.

Q. Isn't that unusual?

A. Not on those rivers. The crossing we selected was only 1300 feet wide, as compared to a 7,000 foot width at a point upstream.

Q. Isn't it a fact that if you had picked out a river crossing for the Prairie Dog Town Fork of the Red River about

at western line of Childress County that you would have had a far better crossing than the one you did take?

A. I doubt very much if that would be true.

Q. Do you know anything about it at all?

A. I don't know that far west, no, sir; but that would not have been a proper line for the line to take; it would have lengthened the line.

Q. I believe you say you measure the gas through meters and pass it through regulators before you deliver it to the distributing companies?

A. We pass it through regulators and then measure it.

Q. What is the pressure of the gas before it is metered [fol. 2354] to the distributing companies?

A. Before it enters the regulators?

Q. Yes, sir.

A. From one hundred pounds to as high as three hundred pounds, depending upon the location of the town on the pipe line.

Q. But it comes out of the regulator approximately at forty pounds?

A. Twenty-five, thirty, and thirty-five pounds, yes, sir.

Q. Now, you say you regard the title as passing at what point?

A. At the outlet of the meter.

Q. After the pressure reduction has taken place?

A. That is correct.

[fol. 2355] Mr. Shannon: Your Honor, we have now concluded our direct testimony on all points involved in this case except the point involving a segregation of the Lone Star Gas Company's property as between property used in intrastate commerce and in the conduct of its intrastate business and that used in interstate commerce and the conduct of its interstate business, as well as testimony showing the net amount available for return to Lone Star Gas Company on the property identified as being used and useful in the conduct of its intrastate business. It has been our position in this case, beginning originally with our pleas, demurrers and exceptions, that the issue to which this testimony is relevant is not properly raised in this case because this suit purports to be an appeal of a rate found by the Railroad Commission in its order. A determination of this issue involves a determination of the

reasonableness of a rate which, we say, the Commission has never found to be reasonable—that is to say, the reasonableness of the charge of 32 cents for gas delivered by Lone Star Gas Company at various city gates of towns and cities [Vol. 2356] served by Lone Star Gas Company in intrastate commerce. It is also our position in this case that, inasmuch as the opinion of the Railroad Commission has been offered in evidence, inasmuch as testimony of the interstate business of the Lone Star Gas Company has been offered in evidence, that at this time the burden of going forward to show the segregation is upon the plaintiffs as a matter of law. However, the witnesses that we would expect to use in the matter of segregation are here, and, without waiving or intending to waive any of our pleas, demurrers or exceptions, and without admitting that there is any legal obligation or duty on us imposed by law to do so, we are prepared to go forward with testimony relative to the matter of segregation; and with this statement we will tender our witnesses on that point.

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E. F. SCHMIDT, a witness for defendant, was recalled and testified further as follows:

[Vol. 2357] Redirect examination.

Questions by Mr. Griffith:

Q. Mr. Schmidt, what is the specific gravity of gas?

A. The specific gravity of gas is the weight of a given volume of that gas as compared to a similar volume of air under like conditions of temperature and pressure.

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A. In other words, if you have a certain volume of gas under a given temperature and pressure, and you determine the weight of that volume of gas, and divide that into the weight of the same amount of air under exactly the same conditions of pressure and temperature, you get the gravity.

The Court: Does elevation have anything to do with it?

A. Temperature and pressure have to be the same; the elevation and all other elements have to be the same; in other words, it is a relative proposition.

Q. Is there a specific gravity in connection with solids as well as gases?

A. Yes, sir.

Q. And liquids?

A. In other words, as to solids and liquids, their specific gravity is in relation to an equal weight of water instead of air.

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[fol. 2358] Q. If in a certain volumetric container it is determined that there are two gases contained and that the specific gravity of the two gases in the container is seven-tenths, is it possible to determine the quantity of each gas in the volumetric container?

A. If the specific gravity of each of the gases that go into the mixture is known and the specific gravity be in a similar proportion, you can determine the amounts of the two gases that are contained in the container.

Q. Assume, Mr. Schmidt, that there are two gases in the container and that the specific gravity of one is six-tenths and the specific gravity of the other is known to be eight-tenths, how would you determine the relative per cent in the volumetric container?

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[fol. 2359] A. If you have a container containing gas at a specific gravity of seven-tenths and you know that one of the gases that are in this container has a specific gravity of six-tenths and the other gas in the container has a specific gravity of eight-tenths, you know that the quantities of each of these gases is fifty per cent.

Q. Because that is the average of the two specific gravities?

A. That is the proportion of the two gases.

Q. Mr. Schmidt, in the measurement of natural gas what factors are taken into consideration in the matter of measurement?

A. Pressure—that is, the static pressure, the main line pressure of the gases, which is the pressure above atmospheric pressure, the differential pressure in the case of an

orifice meter, which is the pressure between one side of an orifice place and the other side of the orifice plate, which is generally indicated in inches of water, and the specific gravity of the gas itself, are the principal items. Of course, the pressure base, the sale base, the temperature of the gas, and the barometrical pressure at that location are also used in determining the volume of gas passing the orifice meter.

Q. Is it absolutely necessary as one of the prime factors in measurement to make a determination of the specific gravity and to apply that specific gravity determination in the calculation of measurement?

A. It is, and the specific gravity will make a difference in the volume in the relation of the inverse portion of the [fol. 2360] square root of the gravity.

Q. Mr. Schmidt, does the gas produced and/or purchased by the Lone Star Gas Company and transported in its pipe line system have the same specific gravity regardless of the source of origin of the gas?

A. It does not.

Q. What is the specific gravity of the gas produced and/or purchased by the company in the State of Oklahoma from the Oklahoma gas fields?

A. From the Oklahoma gas fields in the Fox, Robberson and Loco area the average specific gravity of gas from those wells is about .63, which is six-tenths as heavy as air.

Q. And the Nellie field?

A. The Nellie field, it is almost the same, about .62 to .63. From the Shamrock field the gas is again almost the same specific gravity. The average of those would be very close to .63.

Q. Now, what is the specific gravity of the gas produced and/or purchased by the company and transported from the Central West Texas area?

A. The gas varies through a little wider range. It will average through a range of about .785 to about .83 as a maximum.

Q. Now, Mr. Schmidt, you state that the company necessarily knows the specific gravity of the gas delivered at any city gate station in order to compute the amount of gas delivered?

A. That is correct.

Q. Do the records of the company so reflect those specific gravities?

[fol. 2361] A. That is correct. They do.

Q. And they are applied in the measurement calculations?

A. Yes, sir.

Q. Mr. Schmidt, that being known, has it been possible for you, working in association with Mr. Ed C. Connor and others, to determine what portions of the company's pipe line system are jointly and/or concurrently used and separately used as well for the transportation on the one hand of gas produced and/or purchased by the company in the State of Oklahoma, and on the other hand of gas produced and/or purchased by the company in the Central West Texas area?

A. It has been possible to do that.

Q. And upon the basis of that knowledge have you and Mr. Ed C. Connor prepared a report to be presented as an exhibit in this case showing the facilities which are jointly and/or concurrently used in the transportation of gas on the one hand from the State of Oklahoma into the State of Texas and on the other hand the facilities which are used for the transportation of gas from the Central West Texas area?

A. We have.

Q. Mr. Schmidt, is this the report to which you refer, being styled on the title cover "Lone Star Gas Company—Analysis of Transportation and Sale of Gas Produced in Central West Texas and Gas Produced in Shamrock Area and Southern Oklahoma—Year 1933—E. F. Schmidt—Ed C. Connor"?

A. That is correct.

Mr. Griffith: We offer the report so identified by the witness in evidence.

[fol. 2362] (Thereupon the report above referred to was marked as Defendant's Exhibit No. 45.)

Mr. Fitzhugh: May I ask a few questions, Your Honor?

The Court: Yes, sir.

Examination by Mr. Fitzhugh:

Q. Mr. Schmidt, in making your segregation of the gas and the property used in the transportation of gas I believe you say you have used a method dependent upon specific gravity?

A. To some extent; yes, sir.

Q. Now, all this Oklahoma gas that comes into Texas goes through gasoline plants, doesn't it?

A. Not all of it; no, sir.

Q. Well, practically all of it?

A. A good share of it; yes, sir.

Q. What is the specific gravity of the gas which comes from Line H and Second H before it goes into a gasoline plant?

A. Approximately the same; there is practically no change in the specific gravity in going through a gasoline plant.

Q. Do you mean to say, Mr. Schmidt, that that does not change it?

A. The change is very small, because of the heavy amount of hydrocarbon in it; it changes it slightly.

Q. And the same is true of gas through Line G?

A. Yes, sir.

[fol. 2363] Q. Now, at the Petrolia Compressor Station the compressors are run by gas themselves?

A. Yes, sir.

Q. Isn't it true that the exhaust from those engines is put back into the line?

A. No, sir.

Q. Is that true of the Compressor Station at Gainesville?

A. No, it is not true. There is no exhaust from any gas engine put into the lines.

Q. That is true of the Compressor Station at Joshua, isn't it?

A. No, sir.

Q. What do they do at Joshua with the exhaust gas from the compressor engines?

A. They go into the air like the exhaust from any other gas engine.

Mr. Griffith: If the Court please, I don't see the materiality of this in connection with the examination of the witness at this time.

The Court: I don't see it, either. Maybe he can see it. But, like I said a while ago, I will let it go.

Q. Well, you do introduce at Joshua some inert gas into the gas line?

A. Yes; we do stabilize it.

[fol. 2364] Q. And that changes its specific gravity, doesn't it?

A. Yes.

Q. You do the same thing at Petrolia, don't you?

A. No, sir.

Q. You do at Gainesville, don't you?

A. No, sir.

Q. Now, all the West Texas gas, or approximately all the West Texas gas does go through the Joshua plant, doesn't it?

A. None of it goes through the Joshua plant; it goes past there.

Q. None of it?

A. No, sir.

Q. Well, where does the gas that goes into the Joshua compressor station come from?

A. The gas for fuel comes out of the line.

Q. The gas that is compressed at the station?

A. That is flu gas.

Q. I mean, where does the gas that is compressed at the Joshua station come from?

A. Well; the small compressing station at Joshua that compresses natural gas, it is used solely for compressing gas that is going South of Joshua entirely, and that gas goes through Lines L and M, to points south of the Joshua station.

Q. Well, that's West Texas gas?

A. Yes.

Q. Now, didn't you get a little bit balled up, Mr. Schmidt, when you were explaining specific gravity, when you said the [fol. 2365] specific gravity of the gas as compared with air, which is in turn compared with the weight of a similar volume of water——

A. I didn't say that.

Q. Well, to make the matter clear, the comparison is as between volumes all the way through?

A. Yes.

Q. And the weight of the volume?

A. That's right.

Q. The weight of the volume of gas as compared with the equivalent weight of the volume of air——

A. That's right.

Q. Comparing the weight and volume of gas and the equivalent weight and volume of air.

A. Yes.

Q. And the equivalent weight and volume of water?

A. No sir; water has nothing to do with the specific gravity of gases.

Q. All right. Now, we make this objection, your Honor, that the separation, or that the whole exhibit sought to be introduced here depends upon the specific gravity of gases; and the witness has already testify that the gases that come from Oklahoma into Texas are treated in various manners after coming into this state, and its specific gravity has somewhat changed after it comes into Texas, and so that throws the whole calculation off, and we do not think in view of the testimony that has already come in, that this exhibit should be allowed to come in at all. It's bound to be wrong.

[fol. 2366] Mr. Griffith: I thought this is what you wanted, Mr. Fitzhugh?

Mr. Fitzhugh: We do, but we want it made right, Mr. Griffith, and that's the difference.

The Court: Well, I think your objection, Mr. Fitzhugh, goes to the weight of it rather than the admissibility of the exhibit, and I will overrule your objection.

Questions by Mr. Griffith:

Q. Mr. Schmidt, please relate in a general way what was the method used in connection with the preparation of this report, and where technical terms are involved, endeavor to relate the matter in a way that will be understandable to all of us.

A. This report is prepared for the purpose of fixing a basis for the proper allocation or division of fixed charges, operating expenses and revenues of the Lone Star Gas Company system, involved in the transportation and sale of gas wholly within the boundaries of the State of Texas, and gas which was transported from the State of Oklahoma into the State of Texas, and a division is made of those lines which were used jointly or concurrently for the transportation of this mixed gas.

The report was divided into three main sections. In the first section, we determined the relative per cents and volumes of gas produced and purchased from the West Texas or Central West Texas area in the lines jointly or concurrently used for the transportation of mixed gas. In the second division, we allocated the property of the company [fol. 2367] which was jointly used, jointly or concurrently used, for the transportation and delivery of gas produced from the West Texas area; and in the third division, the

allocation of sales of this gas was set out—that is, between domestic and industrial, a division of those sales.

Q. In the forepart of the report, which has been styled Defendant's Exhibit 45, you set out a letter, and which letter is signed by yourself and Mr. Ed C. Connor, detailing the development of the report?

A. That is correct.

Q. And in the forepart, have you set forth a table of contents, giving ready reference to the various tables and sections of the report?

A. That is correct.

Q. What appears at page 1 of Defendant's Exhibit 45?

A. Page 1 of this report shows a map of the pipe line system of the Lone Star Gas Company, which is composed of the main lines and tap lines used jointly and/or concurrently for the transportation of and sale of gas produced and purchased in the Texas and Oklahoma fields.

Q. Now, Mr. Schmidt, it is not possible to give to each member of the jury a copy of this exhibit, but I wish you would step down out of the witness stand, and point to the map which is in evidence here and labeled Defendant's Exhibit 29, and show generally the facilities of the company which are used jointly and/or concurrently in the transportation and sale of gas from all sources.

[fol. 2368] A. On the eastern part of the map, all of Line E, and the branches thereof.

Q. And running generally from what points to what points?

A. From Gainesville, Texas, West through Paris and on to Clarkesville.

The Court: That would be east, wouldn't it?

A. That's right, east to Clarkesville.

Q. And that is Line E?

A. Yes, Line E. The lines from Gainesville, south; Line F and a small portion of Line G, north of Gainesville Junction, where Line E comes off of F, south to Dallas. Line C, which runs from Dallas to Fort Worth. Line B, which extends from Fort Worth northwesterly to Petrolia. Those are the principal lines, and then also there is Line J, which runs from Haines to Dallas.

Q. Now, in addition to the specific lines which you have mentioned, Mr. Schmidt, are there various tap lines which go off of these various lines?

A. Yes, all of the tap lines going off of those lines are considered in this report.

Q. Now, again referring to the map which is in evidence and styled Defendant's Exhibit 29, does any gas which is transported through the State of Oklahoma into the State of Texas, in the ordinary course of the company's operations—is it distributed at points south of Fort Worth and Dallas?

A. No, sir.

[fol. 2369] Q. It can be?

A. It can be, yes.

Q. But in the ordinary course of operations, that is not done?

A. That is correct.

Q. And what about the sales of gas from Joshua station, just immediately south of Fort Worth, on the western division of the company's pipe line property?

A. From that point west, all the sales in that district are all of gas produced in the Central West Texas area.

Q. Now, from Joshua station south, and south of Dallas and Fort Worth, in the ordinary conduct of the company's business, all of those sales are of gas produced and/or purchased in the central west Texas area, of Stephens, Eastland, Erath, Shackelford and Palo Pinto counties?

A. Yes, and even east of Dallas, extending on over to Greenville, that line is supplied wholly from the west Texas area.

Q. On page 1 of Exhibit 45, have you set forth a map showing the main lines and the tap lines which are used jointly and/or concurrently for the transportation of gas produced in Texas and the Oklahoma fields by the Lone Star Gas Company, in the year 1933?

A. I have.

Q. And that map is in accordance with the general outline on the big map, which you have just pointed out to the jury, and which is Defendant's Exhibit 29?

A. That is correct.

Q. Mr. Schmidt, does the Lone Star Gas Company maintain and operate recording gravimeters, which make a continuous record of the specific gravity of the gas transported and sold by it?

A. They do.

Q. What are these recording gravimeters?

A. The recording gravimeters continuously record the specific gravity of the gas passing the point at which they

are installed. In simple terms, the principle of this machine is something like a hydrometer. In a hydrometer, with which most everybody is familiar, you have a glass bulb, air tight, which when immersed or placed in a fluid will sink to a certain level, depending on the specific gravity of the fluid. In the case of gas, we have a container which is fastened to a beam supported by a bearing about half way between the container and a counter-weight, which counter-balances the weight of the tank, and gas passes through this tank by means of flexible tubes, which do not interfere with the movement of the tank, and the gas passes through at such a slow rate that it is practically in a static condition, and as the gas varies in specific gravity, if it becomes heavier or of higher gravity the weight of the gas in that container will cause it to lower and if the gas becomes lighter, the container will rise, and those movements of the container are transmitted by proper mechanism to a chart, which is calibrated according to the specific gravity of the gas.

Q. And are those charts taken off of the recording gravimeters and included in the records of the company?

A. They are.

[fol. 2371] Q. And those records of course are available to the State of Texas and the Railroad Commission of Texas?

A. Yes.

Q. Now, Mr. Schmidt, you previously testified that the specific gravity of the gas produced and/or purchased in the Panhandle field and in the several Oklahoma fields, was approximately .63?

A. That is correct.

Q. Or 63/100 as related to air?

A. That is right.

Q. When the recording gravimeters of the company show a specific gravity of gas being delivered and transported in the company's pipe line system in excess of .63, what does that indicate?

A. That indicates that there is a certain percentage of gas passing that point that comes from the central west Texas area.

Q. Now, is that indication a theory or is this a matter of scientific fact?

A. It is a matter of scientific fact.

Q. And are recording gravimeters generally recognized and accepted as the accredited means of making these determinations?

A. They are; and they are used entirely in the gas industry as one of the factors in the basis of measuring gas, both for purchase and sale.

Q. As an example, Mr. Schmidt, if you found that the specific gravity of a gas being delivered at the Irving measuring station, was .70, what fact would that indicate?

[fol. 2372] A. That would indicate that there was a percentage of gas in that gas of central west Texas gas, and in order to determine the amount of West Texas gas in the gas at any point where the specific gravity shows to be .7 it is only necessary to make a simple proportionment since you know that the two gases making up this gas of .7 gravity on the one hand is .63 and on the other hand is approximately .825.

Q. Refer please to the graphs appearing at pages 46 to 57, inclusive, of Defendant's Exhibit 45. What do those graphs reflect?

A. These graphs are a copy of the graphs that we use in determining the percentages of west Texas gas for any particular point to simplify the long-hand method of making proportions and to speed up the work. A curve is made for each month, principally because the specific gravity of the west Texas gas varies by a few points each month during the year, and it was necessary therefore to determine the average specific gravity of the West Texas gas by months, and plot a curve for each month instead of making a curve that might apply for a year.

Q. Was that for the purpose of insuring greater accuracy in the preparation of this report?

A. That is correct.

Q. Commencing at page 46, do you show a determination of the percentage of west Texas gas for different specific gravities, for the month of January, 1933?

A. For the west Texas gas in January, 1933, the curve indicates that the average gas at that point was about .795.

[fol. 2373] Q. .795 specific gravity?

A. Yes.

Q. And the specific gravity of the Oklahoma and Shamrock gas remained a constant?

A. Yes .63.

Q. And you made similar determinations for each and every month in the calendar year of 1933?

A. That is correct.

[fol. 2374] Q. Mr. Schmidt, please refer to page 5 of Defendant's Exhibit 45. On that page and on the succeeding pages have you outlined the method of making the per cent determination of West Texas Gas in Line B?

A. I have.

Q. What was the general method followed?

A. In Line B, which starts at Fort Worth, and goes north to Petrolia, we have a meter on the south end of the line that measures gas that may go in either direction. The north flow on this meter is tabulated on page 7 in the first column; and in the next column, the per cent of West Texas gas of the north flow is shown,—that is, as a percentage. That is taken from page 14, which shows the percentage in the right-hand column of West Texas gas in the gas passing that point.

[fol. 2375] Q. Now, how does gas get into Line B from the Central West Texas fields?

A. The gas comes north—comes east, of course, from the Central West Texas area, through Lines K, N, and O, and north through Line J from Joshua to Line C, west from Line C to Fort Worth, and north into Line B at that point. At the North Fort Worth Measuring Station, which is the same point at which gas is taken off for Fort Worth, and also the gas that passes north through Line B, we have a recording gravitometer. From these records, the percentage, as shown on page 14, of West Texas gas was determined; and that percentage during the time that gas flowed north in Line B is shown on page 7, in Column 2. Multiplying the total north flow by the percentage of West Texas gas, we arrive at the total volume of West Texas gas flowing north in Line B. They are set out in the third column. We found on examining the gravitometer charts that during the months of May, June, July, August, September, October, and December—strike that, please—in the fourth column, on page 7, we show the quantity of gas originating in West Texas that was delivered, by months, to the Trinity Portland Cement Company, located almost at the south terminus of Line B.

Q. Is that a large industrial customer?

A. That is a large industrial customer. The quantities as set out in this column were determined from the gravimetric records and the volume of the actual delivery to the cement plant, for those months where gas was used in any quantity, and that was deducted from the total gas in Line B for those months, which is represented by West Texas gas, because we felt that no allocation of property, or operating expenses, or any other fixed charges, should be charged to Line B for transporting that gas that short distance. The fifth column then shows the net amount of West Texas gas, which is the algebraic sum of the third and fourth columns, sold in Line B during the months that gas flowed north.

Q. You are still referring to page 7 of Defendant's Exhibit Number 45?

A. That is correct. The next to the last column on that page shows the total sales of Line B by months during those months that gas was transported through that line from West Texas; and the last column shows the net per cent of West Texas gas handled in Line B during those months.

Q. That is described as Net Per cent Joshua;—is Joshua synonymous with Central West Texas gas?

A. It is; all of the gas from West Texas passes by the Joshua plant.

Q. Now, as stated on page 5—

A. Just a minute. There is an error on this sheet that I might call attention to. During the month of July, in the third column, the figure of 173,000 should be 1,733,000, as shown in the first column for July, since 100 per cent of [fol. 2377] the gas in Line B at that time was West Texas gas.

Q. How would that change the percentage in the column headed "Net per cent Joshua"?

A. That would change that per cent from 5.10 to 51.09.

Q. On page 5 of the exhibit you said that during the months of May, June, July, August, September, October, and December, the daily amount of gas used and unaccounted for in Line B was determined by subtracting the outlet volume from the inlet volume?

A. That means that the south flow was subtracted from the north flow to determine the net amount of gas that went north in Line B at that time.

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Q. In other words, in accounting for the gas, did you state you later classified the sales as between domestic and industrial?

A. Yes, sir.

Q. But you also determined the amount of lost and unaccounted for gas?

A. That is correct.

Q. Now, refer to pages 8 and 9. What have you set forth on those pages?

A. On page 8 is a description of the method used for determining the per cent of West Texas gas of the total transported in Line C, which is the line between Fort Worth and Dallas.

Q. Now, on page 8 of Defendant's Exhibit 45, you mentioned several measuring stations and several points of [fol. 2378] measurement. I wish you would take the pointer and indicate to the jury on Defendant's map Exhibit 29 these several points of measurement, giving a reference to the nearest town or city?

A. The first delivery mentioned in the report is the Central City Gate Station at Dallas, which is at a point about the middle of Dallas. Gas is delivered from Irving Station through a 16-inch line to that point out of Line C—it is really an extension of Line C to that point. The next station is the Hudnall City Gate Station of Dallas, which is near the northwest corner of Dallas. The North City Gate Station of Fort Worth is located on Line C just north of Fort Worth, and the principal deliveries of gas to Fort Worth are passed through that station. The South End—Line B, is the point that I referred to a few moments ago, and is identical almost with the take-off for the North Fort Worth Measuring Station. Line F comes off Line C at a point near Irving, and gas flows through it to consumers on the E and F systems. Line C-2 also comes off at Irving and supplies a part of the West Dallas District, as well as part of the gas used in J-2, the line between Haines and Oak Cliff; and also gas to the Boundary Measuring Station, which is also one of the measuring stations measuring gas into the City of Fort Worth.

Q. Is Oak Cliff a subdivision of the City of Dallas?

A. That is in the south part of Dallas—a subdivision of the City of Dallas.

[fol. 2379] Q. How did you go about making the determination for the West Texas gas that was transported through Line C?

A. All of the West Texas gas reaching these various points of outlet from Line C is transported through Line C. The actual volume of West Texas gas delivered through those various points was determined by applying the specific gravity as recorded at these various locations to the total volume delivered through these stations, which gave—those deliveries added together would give the total amount of West Texas gas delivered out of Line C. And on page 9 is tabulated in the first column the deliveries out of Line C; the next column the determination at each point of the West Texas gas; and in the last column is the ratio of the West Texas gas to the total gas delivered through each of those stations. This is tabulated by months.

Q. On pages 10 and 11 do you show the development of the per cent of West Texas gas to the total deliveries at the Central and Hudnall City Gate Stations of Dallas for the year?

A. I do; but before I go into that, if the Court will permit, I would like to show a check that we made on Line C to show that our method is correct.

Q. Go ahead. What was the check?

A. Just north of Haines, which is one of the delivery points to Fort Worth, we have a main line meter on Line J. This meter measures all of the gas from the Central West [fol. 2380] Texas area that goes north into the C system, and eventually to these other systems. We have a measurement for the total supply of gas that went through that meter, which shows to be 7,717,000,000. This gas is measured at high pressure. A large part of the gas delivered out of Line C—the Fort Worth delivery, and the City Gate deliveries at Dallas, Central Station, Hudnall Station, and C-2—are low pressure deliveries. The sum of all the deliveries out of line C totals 8,253,000,000, which is in excess of the measurement on the meter on Line J. This is due largely to the difference in pressure with which the measurements were made. Gas being compressible, it does not follow Boyle's Law exactly.

Q. Are there what is known as deviation from Boyle's Law in the measurement of gas at various pressures?

A. There is; and the deviation from Boyle's Law for gas passing through the J Line meter, that factor is 1.041, and

when applied to the measurement gives a delivery through that meter of 8,033,000,000, which is only 2.7 per cent lower than the West Texas gas determined by the volumes and gravitometer readings on all the deliveries out of Line C, which I feel is a remarkable check on the accuracy of this method.

Q. And is the difference of 2.7 per cent within the range of tolerance allowed on meters of this character?

[fol. 2381] A. It is. Three per cent is usually allowed on measurements of large volumes of gas—a three per cent variation in the accuracy of the meters.

Q. Have you finished your answer?

A. Yes, sir.

Q. Will you refer then, please, to pages 10 and 11 of Defendant's Exhibit 45, and state what you show on those pages?

A. On pages 10 and 11, I show the method and results indicating the per cent of West Texas gas delivered to the Central and Hudnall City Gate Stations at Dallas. At the point of delivery of this gas we have a recording specific gravity apparatus. It was found that during the months of January, February, March, April, November and December, that by using the average specific gravity for the month we would have been in error, as the gravity varied considerably; so we took the daily average and applied that to the daily delivery through those meters, and in the appendix of the report beginning at page 3 and continuing to page 13 inclusive, are set out the calculations by days of the per cents and volumes of West Texas gas delivered through each of these stations. The monthly results are tabulated on page 11. In the first column on page 11 is shown the total volumes of gas delivered by months through the Central City Gate Station at Dallas; in the second column, the total West Texas; in the third column, is the per cent of West Texas gas, which is determined by the records of the [fol. 2382] gravitometer, which applied to the total delivery in millions, gives the second column, representing the volumes of West Texas gas delivered through the Central City Gate Station of Dallas by months. On page 12, the per cents and volumes of the Hudnall City Gate Station are shown by months.

Q. And were they determined in exactly the same manner as for the Central City Gate Station, set forth on page 11?

A. That is correct; they were.

Q. On pages 13 and 14, what do you show?

A. On pages 13 and 14, I show the per cent of West Texas gas of the total delivered through the North Fort Worth Measuring Station into the city of Fort Worth. On page 13 the method is outlined, which is exactly the same as used for the Hudnall and Central Stations at Dallas, except that in this case we used the gravitometer installed at the North Fort Worth Measuring Station, and it was necessary in this case also to determine the daily average for the months of January, February, March, April, October, November, and December in order to get the weighted average for those months, on account of the wide variation of the specific gravities recorded during those months.

Q. From day to day?

A. From day to day.

[fol. 2383] Q. If we refer to pages 14 to 20, inclusive, in the Appendix to this report, do we find set forth in detail the specific gravity determinations, the West Texas gas determinations, and the volume of West Texas gas handled for each particular day?

A. That is correct.

Q. Refer, please, to pages 15 and 16, Mr. Schmidt.

A. On pages 15 and 16 I have set out the gas—the West Texas gas delivered to the town of Irving, which comes off of Line C.

Q. Where is that town located, with respect to the City of Dallas?

A. It is just west of the City of Dallas, and just west of the location of the gravitometer used on Line C-2, which comes off at almost the same place.

• • • • •

Q. It might be called northwest of the City of Dallas, might it not?

A. Yes, it is a little northwest. It is almost at the point where the main deliveries to Dallas are taken off from our [fol. 2384] system. The gravitometer—on page 16, in the first column is indicated the total delivery to the town of Irving, by months; in the last column the per cent of West Texas gas, as determined by the C-2 gravitometer, is tabulated by months, and the first column multiplied by the

last gives the middle column, which represents the West Texas gas delivered into the city of Irving, by months.

Q. For the calendar year of 1933?

A. This is all for the calendar year of 1933.

Q. Now, Mr. Schmidt, several times you have spoken of the workings of the recording gravitometer. How does the Company continuously know that those gravitometers are functioning and recording correctly?

A. The gravitometers are inspected twice a month and tested with a indicating gravitometer, which is accurate to the fourth or fifth decimal point. These determinations are made at the same point at which the recording gravitometer is located, and by that means we are certain that the gravitometers are recording correctly continuously.

Q. On page 17 you make reference to the Marathon Oil Company's plant, and on page 18 you give a tabulation showing the per cent of West Texas gas delivered to the Marathon Oil Company. Is that a large industrial customer?

[fol. 2385] A. It is rather a large industrial customer. They use an average of about 3,000,000 feet a month, and it is a delivery directly off of Line C, very close to Fort Worth, and in order to give the proper allocation of West Texas gas as sole to this customer, we treated it as a delivery off of Line C, and applied the specific gravity as recorded at the North Fort Worth measuring station to this delivery. Those quantities are tabulated on page 18.

Q. Now, previously, you have spoken of the plant of the Trinity Portland Cement Company. Does the Lone Star Gas Company deliver gas to more than one plant of the Trinity Portland Cement Company?

A. They have one at Fort Worth and one at Dallas.

Q. On page- 19 and 20 do you disclose the determination of the per cent of West Texas gas delivered to the Trinity Portland Cement Company at its Dallas plant for the year 1933?

A. That is correct.

Q. And how was that determination made?

A. The Trinity Portland Cement at Dallas receives its gas from Line C-2, which is the line that extends from Irving in a south direction through the West Dallas area, and connects at its terminus with Line J-2. We used the gravitometer records on C-2 as representing the gravities

[fol. 2386] of the gas delivered to the Trinity Portland Cement at Dallas, and applied the per cent as determined from the gravitometer records to the total volume of gas delivered to the Trinity Portland Cement, to arrive at the volume of West Texas gas which was consumed by the Trinity Portland Cement at Dallas, by months.

Q. And that tabulation is shown on page 22 of the exhibit?

A. On page 20.

Q. On pages 21 and 22 what do you show?

A. We show the deliveries to the Trinity Portland Cement at Fort Worth. This plant is located at the southern terminus of Line B, and gets its gas almost from the same point that the North Fort Worth measuring station gets its supply. The gravitometer records—However, we have located at the Trinity Portland Cement a gravitometer in this plant, and the gravitometer was used—the records from the gravitometer were used in determining the per cent of West Texas gas as delivered to the Trinity Portland Cement Company at Fort Worth. These volumes are tabulated on page 22.

[fol. 2387] Q. Where is Line C-2 located, Mr. Schmidt?

A. Line C-2 comes off of Line C just west of Dallas, and goes in a southerly direction through the West Dallas district and connects with Line J-2 at a point southwest of Dallas.

Q. On pages 23 and 24 of Defendant's Exhibit 45, do you show the method used and the per cent of West Texas gas determined which was transported in Line C-2 during the year 1933?

A. I do.

Q. Please relate in a general way how that determination was made?

A. This determination is made exactly in the same manner as the other determinations—that is, on page 24 we have tabulated the total volume of gas delivered into Line C-2, and in the last column the per cent of West Texas gas as determined by the records of the gravitometer located on Line C-2 at the delivery point. This per cent multiplied by the total millions delivered gives the central column, which shows the total West Texas gas delivered into Line C-2. For the—

A. Similarly, for the months of January, February, March, April, October, November, and December, daily de- [fol. 2388] terminations were made in order to arrive at the weighted average specific gravity for those months on account of the variation of both the specific gravity and the volumes during those particular months.

Q. If we refer to pages 26 to 32, inclusive, of Defendant's Exhibit 45, do we find those specific gravity determinations for each day for each of the months that you have mentioned?

A. Pages 26 to 32, inclusive.

Q. Of the Appendix?

A. That is correct.

Q. Where is Line E located? Please refer to it on the Defendant's Pipe Line Map, Exhibit 29.

A. Line E comes off of Line F at a point south of Gainesville, Texas, and goes in an easterly direction, supplying Sherman, Denison, Paris, and east as far as Clarksville, and a number of towns in between there.

Q. Of course, it has various tap lines?

A. Yes, sir.

Q. Now, what do you disclose on pages 25 and '6 of Defendant's Exhibit 45?

A. On pages 25 and 26 is set out a method and a tabulation of the volume of West Texas gas transported and sold [fol. 2389] through the E System, by months, during the year 1933. On page 26, the column represents the total millions of cubic feet delivered into Line E, and at the location of this measurement we have a recording gravitometer, and from the records of that recording gravitometer the per cent of West Texas gas, as shown in the last column, was determined, and multiplying the total volume by the per cent of West Texas gas gives the total volume of West Texas gas distributed through Line E, by months, during the year 1933.

Q. Now, Mr. Schmidt, where is Line F located?

A. Line F begins at Gainesville, and goes in a southerly direction to Dallas.

Q. Terminating at what point?

A. Terminating at Irving, approximately at the Irving Station, just west of—

Q. And that is near the town of Irving which you have just mentioned?

A. Yes, sir.

Q. Now, what do you set forth on pages 27, 28, and 29, in relation to Line F?

A. On pages 27 to 29, inclusive, I show the method used in determining the percentage of West Texas gas transported and sold in the F System, and on page 29 are tabulated the results of this investigation. In the first column as shown the net north flow at Irving into Line F, less the deliveries out of Line E. In determining the per cents of West Texas gas as transported in Line F we used a gravitometer located about the central point in the length of this line at the McKinney tap line. We felt that since gas was flowing or going into Line F both from the north and the south that this gravitometer would give us a more accurate determination of the relative amounts of the West Texas gas in that line. The per cents of West Texas gas as determined from this gravitometer are shown in the last column on page 29, which, multiplied by the first column on page 29, gives the center column, which indicates the total West Texas gas delivered through Line F and sold off of Line F.

Q. Now, have you fully described how you have made your determinations in respect of the per cent of West Texas gas which is transported and sold, or unaccounted for in connection with all of the facilities which are jointly and/or concurrently used for the transportation and sale of gas, whether produced in the State of Oklahoma or in the State of Texas?

A. All with the exception of Line J-2.

[fol. 2391] Q. And the J-2 taps?

A. And the J-2 taps, yes, sir.

Q. Is that determination shown on page 55 of Defendant's Exhibit 45?

A. It is.

Q. Will you please relate briefly the method of making that determination?

A. On page 55, in the first column, is shown the total sales off of Line J-2, by months, for the year 1933. During part of the time all of the gas sold on Line J-2 was delivered into J-2 from Line J at Haynes, which would be 100 per cent West Texas gas. Whenever the sales on Line J-2 were less than the delivery through the J-2 meter at Haynes, which was West Texas gas, the difference came from Line C-2. Line C-2 gas, as previously determined, carried a certain percentage of West Texas gas. Following out the table

on page 55, the second column shows the deliveries from Line C-2 into Line J-2, by months. This is taken from page 49, which shows the—in the fifth column, the balance of the amount of gas sold on the J-2 System as coming from C-2, by months.

[fol. 2392] Q. In other words, these towns of Arlington, Handley, Dalworth and Arcadia Park are sold off of the J-2 line?

A. That is correct. The third column shows the per cent of gas coming from Line C-2 into Line J-2. This is arrived at by dividing the second column by the first column. The fourth column shows the percentages of Shamrock and Oklahoma gas in Line C-2 as determined on page 24 of this report. The next column is the product of the per cent of Shamrock and Oklahoma gas times the per cent of the C-2 gas in Line J-2, which gives the next to the last column, the per cent of Shamrock and Oklahoma gas in the total gas delivered to Line J-2. The last column is the per cent of West Texas gas in the total.

Q. For each month of the year?

A. For each month of the year.

Q. Does the calculation at the bottom of page 55 have to do with the allocation of property?

A. Yes.

Q. Have you now concluded a description, Mr. Schmidt, of your method of determining the relative percents of west Texas gas which were transported and sold through these facilities which are jointly and/or concurrently used?

A. That is correct.

Q. Mr. Schmidt, commencing with page 30 and running through page 38, what do you show in respect of the application of the determination of the per cent of west Texas gas which was transported through facilities jointly and/or concurrently used?

[fol. 2393] A. I show the allocation of property which we set up due to the transportation of this West Texas gas through the lines that were jointly or concurrently used.

Q. Now, on page 31 do you show the lines and equipment and the compressor stations which were jointly and/or concurrently used in connection with the transportation and sale of gas from all sources of supply?

A. With the exception of Line J-2, which is not enumerated on that page.

Q. But which is a part of those joint and/or concurrent facilities?

A. That is correct.

Q. Now you then attempted an allocation of the property, based upon the respective use to which the property was devoted, did you not?

A. That is correct.

Q. In making this allocation, do you set forth the method, commencing at page 32 and running through page 35 of Defendant's Exhibit 45?

A. I do.

Q. Now please relate to the jury in a general way the method of allocation which was used, and your reasons therefor.

A. There are certain fixed charges, including interest and return, ad valorem taxes, depreciation, amortization and operating charges, which are a function of time rather than volume of gas transported. That is, I mean to say that regardless of whether we transport ten million feet of fifty [fol. 2394] million feet through any particular line at any particular time, these fixed charges are continuous, regardless of the volume. They are a function of time. In order to properly apply these fixed charges, we applied a factor of 8.33 which is one-twelfth of one hundred per cent, giving the per cent by months of these fixed charges, and applied to that the percentage determined of west Texas gas handled through the various system lines and tap lines.

Q. And that was the method of allocation of this property which you have described?

A. That is correct.

Q. On pages 36, 37 and 38 do you show the allocation of property by individual lines and systems?

A. I do.

Q. Please explain, for example, the allocation of Line B and B Taps, appearing at the top of page 36 of the exhibit.

A. On page 36 I have tabulated in the right-hand column the per cent, one-twelfth of 100 per cent, represent the per cent for each month of those fixed charges. In the next column are the percentages of west Texas gas delivered on the B and B Tap system, as determined on page 7 of the report. These two columns multiplied together give the per cent by months of property allocations and per cents which should be applied to all of the various fixed charges each month.

Q. And also to the property?

A. And also to the property, yes.

[fol. 2395] Q. And is the same true in respect of all of the other allocations which appear on pages 36, 37 and 38?

A. That is true, and in addition, on the bottom of page 55 is shown the allocation on Line J-2.

Q. Is there any further explanation which you desire to make in respect of this allocation of the various property?

A. Well, we kind of called this method a time-volume method, which ties both the time and the volume together.

Q. All right; what do you mean by the time-volume method? Just explain it to the jury.

A. The time element is contained in the factor 8.33, which is the monthly per cent or total per cent of the annual charges, and the volume per cent is determined from the actual records of the company, gravitometers and volumes delivered at these various systems.

Q. Do you believe that that was the proper method to apply in the determination of the fixed charges and the allocation of the fixed charges and the allocation of property?

A. I do.

Q. Do you believe it is the rational method to pursue in making that allocation?

A. That is correct.

Q. Has any more rational or sensible method of allocation occurred to you?

A. No, sir, there has not.

Q. Now, Mr. Schmidt, having made the determinations [fol. 2396] of the per cent of West Texas gas which were transported and sold through these various facilities which are jointly and/or concurrently used, and having determined the allocation of fixed charges and property, did you next proceed to make an allocation of sales by classes?

A. I did.

Q. Which sales were effected through these facilities which were jointly and/or concurrently used for the transportation and sale of gas from all sources of supply?

A. That is correct. An analysis was made of the sales.

Q. Commencing at page 40 and going through page 43, do you explain the method of allocating the sales by classes?

A. I do.

Q. Will you please summarize the explanation of that method in a general way to the jury?

A. In order to properly allocate the sales of gas through these various sources, it was necessary to make a determination from the records of the company of the domestic sales, the unaccounted for gas and the industrial sales by months. The domestic and unaccounted for gas is sold at the city gate stations at a forty cents rate, and the industrial gas is sold on a sliding scale basis, and it was therefore necessary to divide these sales in order to properly set out the moneys that were received for the amount of west Texas gas delivered through these various points of consumption. That, briefly, explains the method that was used.

Q. In other words, Mr. Schmidt, in making the allocation [fol. 2397] of sales by classes, were you merely attempting to make a money accounting for the sale of the gas which had been determined to be transported through the facilities which were jointly and/or concurrently used?

A. That is correct.

Q. Now, commencing at page 44 and running through page 54 of the exhibit, do you show the allocation of sales by classes?

A. I do.

Q. Now Mr. Schmidt, was all of this basic data taken from the books, records and accounts of the Lone Star Gas Company?

A. It was.

Q. And to which books, records and accounts the State of Texas and the Railroad Commission now have and may have access?

A. That is correct.

Q. Take up, for example, the allocation of sales by classes on the F system, appearing at the top of page 44, and explain to the jury how that determination was made.

A. In the first column, we have tabulated by months the domestic sales on the F system.

Q. Is that the total of domestic sales?

A. That is the total domestic sales on the F system.

Q. Of gas transported from any and all sources?

A. That is correct. The next column shows the lost and unaccounted for gas in the city gates, in the distribution plants where these sales were made. The third column is the algebraic sum of the first two columns, and gives the net amount of gas that the Lone Star Gas Company was [fol. 2398] paid for at a forty cents rate. The fourth

column indicates the total industrial sales on the F system by months from all sources.

Q. Now, Mr. Schmidt, these are money determinations, are they not? That is, the domestic sales are given in money?

A. No, these are given in feet.

Q. They are given in feet?

A. Yes, thousands of cubic feet.

Q. Then what appears under the industrial sales?

A. Under the industrial sales are the total industrial sales by months sold on the F system in thousands of cubic feet. The following column is the per cent of Oklahoma and Texas Panhandle gas brought forward from page 29 which was determined in the study or allocation of West Texas gas. These per cents are the reciprocals of the per cents shown on page 29, since the per cents on page 29 represent the per cent of west Texas gas, and this column on page 44 represents the per cent of Oklahoma and Texas Panhandle gas. Multiplying the net cubic feet at forty cents in the third column by the per cent of Oklahoma and Texas Panhandle gas, gives the amounts in cubic feet of gas in next to the last column on page 44, which is Oklahoma and Texas Panhandle gas by months. Similarly multiplying the industrial sales column by the per cent of Oklahoma and Texas Panhandle gas, we arrive at the industrial gas which is Oklahoma and Texas Panhandle gas, and that is set out in the last column on page 44 for the F system by months.

From the total of the gas which is represented, or which comes from the Oklahoma and Texas Panhandle fields, I [fol. 2399] have determined the per cent of domestic gas and industrial gas to the total gas sold coming from the Oklahoma and Texas Panhandle fields. That is set out just below the tabulation on Line F. In other words, the Oklahoma and Texas Panhandle domestic gas was 66.14 per cent of the total Oklahoma and Texas Panhandle gas sold on the F system, and the industrial gas was 33.86 per cent of the total Oklahoma and Texas Panhandle gas sold on the F system for the year 1933. On the left hand, below the tabulated columns, is indicated the per cents of West Texas domestic gas and industrial gas of the total of the West Texas gas sold in the F system.

Q. In other words, you have made—treating the west Texas gas as 100 per cent, you have arrived at a determination of what part of that one hundred per cent is repre-

sented by industrial sales and what part of it is represented by domestic sales?

A. That is correct.

Q. And a similar determination has been made for gas produced and/or purchased in Oklahoma and the Texas Panhandle?

A. That's right.

Q. And have you made a similar calculation immediately following in connection with the E system; and Line B and the Tap Lines?

A. I have.

Q. And is the method similar in all respects to the method which you pursued in connection with the determination on the F system?

A. That is correct.

Q. Now, what appears on page 45?

[fol. 2400] A. On page 45 I have allocated the sales by classes in the metropolitan area of Dallas, and the sales of Oklahoma and Texas Panhandle gas going through the Hudnall and Central stations.

Q. Now in that connection, Mr. Schmidt, does the Lone Star Gas Company deliver gas to the Dallas Gas Company and the County Gas Company, the distributing companies in Dallas, at any points other than the central and the Hudnall stations?

A. They do.

Q. At what other points?

A. At Second Avenue and Lisbon.

Q. Now, will you please step up to the map, defendant's Exhibit 29, and show the jury why it was not necessary to take into consideration the gas delivered at Lisbon and Second Avenue Stations in Dallas?

A. The Lisbon delivery comes off of Line O at a point south of Dallas, and Line O carries only west Texas gas, and therefore 100 per cent of the gas delivered through the Lisbon station was purchased or produced in west Texas.

Q. And is that also true of the Second Avenue station?

A. That is also true of the Second Avenue station, which comes off in the southeast part of Dallas.

Q. Referring again to page 45, will you please explain briefly how you made the allocations of sales by classes for deliveries to the metropolitan area of Dallas from the Hudnall and Central stations?

A. In order to find out the proper percentage of the Oklahoma and Texas Panhandle gas, it was necessary to [fol. 2401] make an analysis of all of the sales in the City of Dallas. In the first column on page 45, I have set out the domestic sales by months of all the gas sold in the city of Dallas. This second column is the unaccounted for gas in the distribution plant of the city of Dallas, and the third column is the algebraic sum of the first two columns, which represents the amount of gas which was sold at forty cents a thousand in the city of Dallas during these months. The fourth column is the industrial sales by months of all industrial sales in the city of Dallas. The fifth column is the total of the domestic and industrial sales in the city of Dallas by months. The next column shows the delivery of gas through the Hudnall and Central stations at Dallas; the following column shows the per cent of Hudnall and Central stations gas to the total gas sold in the City of Dallas.

Q. Now, the total gas would be the gas not only delivered through the Central and the Hudnall stations, but through the Lisbon and Second Avenue stations, which you have just pointed out on the map styled Defendant's Exhibit 29?

A. That is correct. The next column is arrived at by multiplying the net domestic sales in the City of Dallas at forty cents by the per cent of the Hudnall and Central per cent of the total which represents the total amount of gas sold in Dallas at forty cents, that went through the City Gate stations of Hudnall and Central station-. The next column similarly sets out the total amount of gas that went [fol. 2402] through the Hudnall and Central stations of the industrial gas, and is obtained by multiplying the per cent of the total of the Hudnall and Central city stations by the total industrial sales in the metropolitan area of Dallas. Next to the third column from the right I set out the per cent of Oklahoma and Texas Panhandle gas which was delivered through the Hudnall and Central City Gate Stations of Dallas, and was carried forward from pages 11 and 12, determined in the first part of this report. Multiplying then the total net gas that went through the Hudnall and Central city gate stations, the gas that was sold at a forty cent rate, by the per cent of the Oklahoma and Texas Panhandle gas would give the net amount of gas sold at forty cents which was purchased or produced in Oklahoma

and Texas Panhandle gas sold through these stations at a forty cent rate. The last column is arrived at in a similar manner, applying the per cents to the industrial sales and shows the amount of industrial gas produced and purchased in Oklahoma and Texas Panhandle, and sold through these two stations in the city of Dallas.

Q. Through means of those determinations, were you able to arrive at the per cent of West Texas gas which went to domestic sales and the per cent which went to industrial sales, and the same for the gas produced in Oklahoma and the Texas Panhandle?

A. I was.

Q. And is that determination set forth at the bottom of the table of calculations on page 45?

A. That is correct.

[fol. 2403] Q. The allocation of sales by classes made through the boundary station at the city of Dallas appearing on page 46, was it made in exactly the same manner as the determination on page 45?

A. That is correct.

Q. And is the same true of the allocation of sales by classes for the Fort Worth division of Lone Star Gas Company?

A. That is correct.

Q. Covering deliveries through the North Fort Worth station?

A. That is correct, and that tabulation is set out on page 47.

Q. Now in addition to the delivery of gas at the North Fort Worth station at the city of Fort Worth, is gas delivered at any other points to the city of Fort Worth?

A. Yes, at two other points.

Q. Where are those points? Will you please indicate them on Defendant's Exhibit 29?

A. At a point on Line J, known as Haines, which is almost directly East of Fort Worth. Gas coming off of Line J, going in at that point, is 100 per cent from the central west Texas area, produced and purchased in that territory. The other point of delivery is at South Fort Worth which also comes off of Line J, and is 100 per cent gas produced and purchased in the central west Texas area.

[fol. 2404] Q. Refer, please, to page 48. What do you set forth on that page?

A. Page 48 shows allocations of sales by classes in the town of Irving.

Q. In other words, you finally determine on page 48 the per cent of West Texas gas which went for domestic and the per cent for industrial purposes and made the same calculation for gas purchased and/or produced in Oklahoma and the Texas Panhandle?

A. That is correct.

Q. What appears on page 49?

A. Page 49 represents a tabulation of the allocation of sales by classes at Arlington, Handley, Dalworth, Grand Prairie and Arcadia Park; in other words, these towns receive their supply of gas from Line J.

Q. And was that method of allocation of domestic and industrial sales covering, first, West Texas gas, and secondly, Oklahoma and Texas Panhandle gas, made in exactly the same manner that the allocation was made on page 47 in connection with the deliveries of gas at North Fort Worth station?

A. Not exactly. We had to take into account on J-2 the gas delivered into J-2 from Line C-2, and this is properly taken into account and the per cent of West Texas gas finally determined for the sales of these towns on Line J-2.

Q. Refer, please, to page 50. What do you set forth on that page?

A. On page 50 the allocation of sales by classes of the [fol. 2405] gas delivered in the territory known as West Dallas. This is a delivery mainly of industrial gas in the West Dallas area and comes off of Line C-2 and was set out as a separate item because it represented a fairly large volume of sales, included in which were some domestic sales. The method followed is very similar to the method on the other sales.

Q. The allocation on page 51 is similar to the allocation of page 50, is it?

A. Yes, sir, and it represents allocations of sales by classes on the G-3 system, which system comes off of Line G near Gainesville and extends in a westerly direction to a number of small towns west of Line G.

Q. On pages 52, 53 and 54 do you make an allocation of sales covering three industrial customers heretofore referred to in your exhibit and in connection with your testimony?

A. That is correct.

Q. That was one hundred per cent industrial gas, was it not?

A. That is right.

Q. You have merely determined the quantities on the one hand of West Texas industrial gas delivered to those three plants and the quantity of Oklahoma and Texas Panhandle gas delivered to those three plants?

A. That is correct.

Q. Have you previously explained the allocation set forth at the bottom of page 55, Mr. Schmidt?

A. Yes, sir; we explained that in the allocation of property accounts.

[fol. 2406] Q. Now, in connection with the allocation of sales in respect of Line E, was any consideration given to the gas which — from the State of Texas north into the State of Oklahoma for city gate delivery at the city gates of Achilles, Caddo, Durant and Hugo, Oklahoma?

A. The deliveries to those towns—

Q. Were they not deducted from the Line E sales?

A. I am quite sure that they were. I would have to refer to my notes to be sure.

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Q. Mr. Schmidt, in the determination of the matters set forth in Defendant's Exhibit 45 did you take into account the gas transported over Line E in the State of Texas into the State of Oklahoma, and particularly did you take into account the city gate sales at the town of Achille, the city of Durant, the town of Caddo, and the city of Hugo, Oklahoma?

A. Yes, sir.

Q. What effect did you give to those sales in the preparation of this report?

A. Those sales were taken from the total gas transported through Line E before the percentage of West Texas gas was determined and allocated to that line.

[fol. 2407] Q. So you didn't take into consideration those Oklahoma sales off of Line E as a part of the West Texas gas transported and sold on Line E proper?

A. We did not.

Q. Mr. Schmidt, what, generally, is set forth in the appendix to this report?

A. Well, the first part is a tabulation of the daily determinations of volumes of West Texas gas from the grav-

itometer records and deliveries through certain city gate stations. That includes pages 3 to 20, inclusive. On page 22 it indicates that the same weighted monthly percentages as determined for the North Fort Worth Measuring Station in the sheets pages 14 to 20, inclusive, were applied to the Marathon Oil Company sales, this being the location of the gravitometer used for the Marathon Oil Company sales. For the Trinity Portland Cement Company at Dallas we used the weighted monthly percentages as determined for Line C-2, since those sales come off of Line c-2. The Trinity Portland Cement Company at Fort Worth, on pages 24 and 25, shows the average specific gravity by days of the gas delivered to the Trinity Portland Cement Company for the months of August and September from the gravitometer records at the Trinity Portland Cement plant at Fort Worth.

Q. I believe gas was only delivered to the Trinity Portland Cement plant at Fort Worth during those two months of the calendar year 1933?

[fol. 2408] A. No; there were some other deliveries, but they were very small.

Q. Very small?

A. Yes, sir.

Q. In connection with your testimony in explanation of the exhibit you have generally referred to the matters set forth in the appendix as showing detailed calculations in respect of specific gravity?

A. That is correct.

Q. Or, rather, I should say in lieu of calculations a determination of specific gravity for the specific day of the specific month?

A. That is right.

Q. And I believe this morning you made reference to the graphs which are set forth at pages 46 to 57, inclusive, at the back of Defendant's Exhibit 45?

A. I don't believe I explained just how those graphs were used.

Q. Well, will you please do so?

A. For the month of December, take the graph on page 57; when it was determined from the gravitometer records at any particular location, we will say that the gravity recorded was .70. If you follow from the left-hand side of the graph at the point marked .70 and follow horizontally

until it crosses the sloping line and then drop from there to the lower horizontal line, you will find automatically the per cent of West Texas gas that is in gas in this particular [fol. 2409] system where the specific gravity is .70. This simplified and aided us in determining these percentages rather than using the laborious method of proportions.

Q. Now, Mr. Schmidt, your testimony in connection with this exhibit may have seemed somewhat technical. I will ask you if there is anything complicated about the determinations that were made either in respect of the specific gravities, the measurement of gas, or the allocations of property or the allocations of gas sales?

A. All of the calculations and the data referred to are rather simple, and the information is entirely taken from the records of the company.

[fol. 2410] Q. And may be checked by the State or by the Railroad Commission?

A. That is correct.

Q. As a matter of fact, Mr. Schmidt, will you be glad to aid any representative of the State or Railroad Commission in checking the company's records in connection with this exhibit?

A. I will be glad to do so.

D. A. HULCY, a witness for defendant, was recalled, and testified as follows:

Direct examination.

Questions by Mr. Griffith:

Q. Mr. Hulcy, I believe you have heretofore appeared and testified in this case?

[fol. 2411] A. Yes, sir; I believe I have.

Q. Do you have any familiarity with what has been identified and introduced in evidence as Defendant's Exhibit 45?

A. Yes, sir; I do have a knowledge of that report and am familiar with it.

Q. Mr. Hulcy, using Defendant's Exhibit 45 as a predicate, have you attempted to compile and set forth in form

to be presented as an exhibit in this case a segregation of the property, revenues and expenses of Lone Star Gas Company, in relation to its public service property, first, in connection with such property, expenses and revenues as may be involved in connection with the transportation, and with the production and/or purchase and transportation in Texas of gas wholly produced and transported in Texas; and next, gas purchased and/or produced in Oklahoma and the Texas Panhandle and transported and sold in the Lone Star Gas Company's pipe line system?

A. Yes, sir; I have.

Q. Have you that exhibit with you?

A. Yes, sir.

Q. Is this report to which you refer, being styled on the title cover, "Lone Star Gas Company, Report on Property, Revenues and Expenses within Specified Areas"?

A. It is.

Mr. Griffith: We offer the report so identified in evidence.

[fol. 2412] (Thereupon the document referred to above was marked for identification as Defendant's Exhibit No. 46.)

Q. Is this the report which you have prepared, in part at least, at the request of Mr. Fitzhugh?

A. I understood that they were interested in it, and they asked me about it several times while I was on the stand, and this is the report.

Q. Yes, sir.

Q. Mr. Hulcy, in the forepart of Defendant's Exhibit 46 have you attempted to detail the subject matter set forth in the report, and the scope of the report?

A. Yes, sir; to a certain extent, I have.

Q. Will you, please, relate to the jury in a general way what you have attempted to do in respect of the segregation of property, revenues and expenses within specified areas? [fol. 2413] A. The property, revenues and expenses of the Lone Star Gas Company's public service operations and property have been divided into what I have termed three areas. First, is Area "A", which covers both property, expenses and revenues in connection with gas purchased and produced in Texas, transported and sold wholly

within the State of Texas, and in area where the source of supply can be easily defined.

Q. Mr. Hulcy, could I trouble you to come up and walk over to that map, which is Defendant's Exhibit 29, and generally define the territory that you have reference to?

A. Yes, sir. (Witness goes to map.) This particular area that I have reference to, and which I have called Area "A", covers the gas which is purchased and/or produced in the West Texas area, is transported in a westerly direction to a point as far as Colorado, and thence north to Snyder, all of that gas being purchased and/or produced in West Texas. Also it covers this part of the system commonly referred to as Lines "A" or the "K" System, and the "O" System, which extends from West Texas in an easterly direction to a point at or near Joshua, Texas. Part of that gas is transported and sold through the Lone Star Gas Company system which extends in a southerly direction through Waco, as far south as Round Rock, some seventeen or eighteen miles north of Austin; also as far south as College Station on the east. It also covers the area, and also [fol. 2414] the gas which is purchased and/or produced in the Central West Texas area, is transported in a north-easterly direction from Joshua, which passes near to the city limits of the City of Dallas, and goes on in a north-easterly direction to a point as far east as Sulphur Springs and Cooper. It also takes into consideration the gas sales sold on a part of the "O" System, which extends southerly down through Corsicana and as far south as Teague. It also takes into consideration the sales on that part of the "O" System which extends through Kaufman County and on into Henderson county, where gas is sold at the city of Athens and the town of Malakoff. Now, generally speaking, all of that gas sold in that particular area is purchased and produced, transported and sold wholly within the State of Texas. The next area which I have referred to and set out in this report I have called Area "B", which covers gas sales, expenses and property used in connection with gas purchased and produced in Texas and/or Oklahoma, transported through and sold in the State of Oklahoma and/or Texas and areas where the source of supply can be easily defined. The area that I have particular reference to there covers the gas which is purchased and/or produced in Wheeler County, Texas, commonly called and referred to as the Shamrock, or Panhandle area, and which is transported

through the western part of the state of Oklahoma, down through the city of Vernon, some of which is then transported back into the state of Oklahoma through the A-1 [fol. 2415] System, which extends through Frederick, on to Mountain Park; also the gas that is brought on down and sold at Wichita Falls, and where that system makes connection with the "B" System and the "H" System at Petrolia. It also covers the gas which is purchased and/or produced in the Chickasha, Nellie, and Duncan Fields, located in Grady, Stephens and Cotton Counties, Oklahoma. It covers all of those sales down to a point at Petrolia, which would be all of the sales on the "H" System. It also covers the gas purchased and/or produced in the Fox-Locho area, and located in Carter and Jefferson Counties, Oklahoma, and which is transported in a northerly direction to a point as far north as Purcell, Oklahoma, which is located in McLean County. It also covers the gas which is transported in a southerly direction to a point south as far as Gainesville. Now, normally at all points the flow of gas from this particular area is south.

Q. What area?

A. From the Fox-Locho area the flow of gas is south. Also, the gas produced in the Chickasha-Nellie-Duncan area, the flow is south to Petrolia; and the gas produced in the Wheeler County area, the flow is also in a southeasterly direction to Petrolia. So those are the areas which I say can be easily defined, that is, the sales.

Q. What is the next area, which you have described as Area "C"?

A. Area "C" covers the gas sales, expenses and property [fol. 2416] used in connection with gas purchased and produced in both Texas and Oklahoma where the sale thereof and facilities used are joint and concurrent.

Q. Now, who determined those facts for you in reference to the joint and/or concurrent facilities?

A. Mr. E. F. Schmidt and Mr. Ed C. Connor, and it was covered in a report prepared by them.

Q. And which report has been introduced in evidence here and styled Defendant's Exhibit 45.

A. That is correct. The Area "C" covers this portion of the system which has been previously pointed out by Mr. Schmidt, commonly referred to as the "B" System, extending from Petrolia in Clay County, Texas, in a general southeasterly direction to or near the City of Fort Worth. It also

covers the "C" System and the "J-2" System, which extends from or near Fort Worth to the proximity of the City of Dallas. The area also covers the "F" System, which extends from a point just south of Gainesville in Cook County down to Irving, Texas, which is just west of Dallas. It also covers the "E" System, which extends from a point near Gainesville, Texas, and extends easterly to a point as far east as Clarksville; and also leading off the "E" System is a branch line referred to as Line "E-5", which goes into Oklahoma, and furnishes gas at Durant, Achille, and Caddo; also Line E-16, which furnishes gas to Hugo, Oklahoma.

[fol. 2417] Q. Of course, in addition to the specific lines you have mentioned there are certain tap lines leading off from those main transmission lines?

A. That is correct.

Q. Now, the description that you have given of area "C" as included in Defendant's Exhibit 46, I will ask you if that is the same area as defined on the map which is page 1 in Defendant's Exhibit 45?

A. Yes, sir; it is.

Q. Now, Mr. Huley, you divided the territory and the facilities of Lone Star Gas Company into three groups in connection with this computation?

A. Yes, sir; I did.

Q. Then did you classify further the business and property of the Company?

A. Yes, sir; I did; into what I have styled as "D" Operations and "E" Operations. "D" Operations cover the gas sales, expenses and property used in connection with gas purchased and produced in the State of Texas, transported and sold wholly within the State of Texas. That means "D" Operations include all items which are shown for Area "A" plus a portion of the amount shown for Area "C"; and likewise, "E" Operations cover the gas sales and expenses and property used in connection with gas purchased and produced in the State of Texas and/or Oklahoma, trans-
[fol. 2418] ported through and sold in the State of Oklahoma and/or Texas, and "E" Operations include all of the items shown in Area B plus a portion of Area "C".

Q. Upon the advice of counsel, Mr. Huley, have you endeavored throughout this report to avoid the use of the words "interstate" and "intrastate"?

A. Yes, sir; I have.

Q. But you have endeavored to give an actual description of the operations which are embraced and included and defined in your exhibit?

A. Yes, sir; I have.

[fol. 2419] Q. Mr. Hulcy, in the fore part of your exhibit do you give an index—do you set forth an index to the report by which the various portions of the report—that is, Defendant's Exhibit 46, may be readily identified?

A. Yes, sir.

Q. What appears on page 2 of the report?

A. On page 2 of the report is a statement of revenues, expenses and amount available for depreciation and return, property account, which is the actual cost as reflected by the books at December 31, 1933, and this statement of revenues and expenses is for the twelve months ended December 31, 1933. First, on this page I have shown the total amount—that is, the revenues, expenses, and property for the entire System of Lone Star Gas Company public service operations; and I might add that these are the exact figures as shown on the exhibit which was sponsored by me for the twelve months ended December 31, 1933, when I first made an appearance as a witness in this case.

Q. Those are the actual expenses and revenues of the Company?

A. Yes, sir; yes, sir, as set out in that exhibit.

Q. Is there a calculation made in respect of the Federal income taxes?

[fol. 2420] A. That is correct; it is a calculation to cover the Federal income taxes that would be applicable to the public service operations.

Q. But in all other respects the revenues and operating expenses are exactly as reflected by the books?

A. That is correct, and as taken from the books and records.

Q. Now, what appears on page 3 of the report?

A. Page 3 of the report is a statement similar to the statement shown on page 2, with this exception—that it is after giving effect to the 32-cent domestic gate rate which was ordered and set out by the Railroad Commission in their opinion and order, and it is also for the twelve months period ended December 31, 1933, with the property account being shown, which is the actual cost as reflected by the Company's books at December 31, 1933.

Q. Now, Mr. Hulcy, in connection with this summary which appears on page 3, have you made any adjustments other than from the actual experience of the Company, for 1933, except to apply the reduced revenues that would have been effective had the Railroad Commission's gate rate been in effect for the year?

A. No, that is the only correction I have made; other than [fol. 2421] that, the same explanation holds good here—that is, that the Federal income tax is a calculation and not actually taken from the books.

Q. Now, Mr. Hulcy, is there set forth in Defendant's Exhibit 46 any detail of the actual gas sales or operating revenues of the Company for the twelve months ended December 31, 1933?

A. Yes, sir, there is.

Q. At what page of the report?

A. The gas sales figures begin at page 6 of the exhibit, and extend through to page 27, wherein the gas sales are set out in detail, and also in summary form.

Q. On those pages which you have identified you have set forth the gas sales by the Lone Star Gas Company to the several distributing companies and also the main line sales?

A. Yes, sir, I have.

Q. Mr. Hulcy, will you please explain, referring to page 7 of Defendant's Exhibit 46, how you determined the sales which were applicable to Area A and Area B and Area C, and what you determined was applicable to what you call D Operations and E Operations?

A. Yes, sir. The statements appearing at page 7 are summaries, and it might be better to refer to page 11, which is [fol. 2422] where the detailed statements start. On page 11, first we have the gas sales to the Dallas and County Gas Companies, the sales that were made through the Hudnall and Central stations for both domestic and industrial gas. The Hudnall and Central stations are located in the Area C, or the mixed area—that is, where a mixed gas is furnished. Therefore, the volumes shown are furnished—were furnished by Mr. Schmidt and Mr. Connor, and are set out in their report which is styled Exhibit 45 in this case. I believe the detailed calculations will be found on pages 44 and 45 of their report. Also, the Boundary Station is a calculation that was furnished by Mr. Schmidt and Mr. Connor for both domestic and industrial gas. Also, the deliveries at Arling-

ton, Dalworth, Arcadia Park were calculations furnished, covering volumes of both domestic and industrial gas, and which is taken from their report. The same thing is true of the West Dallas area. They did not make calculations of the volumes of gas delivered at the Second Avenue and Lisbon Stations.

Q. Those were the two stations which Mr. Schmidt identified as not receiving or delivering any gas which had been transported through the State of Oklahoma into the State of Texas?

[fol. 2423] A. That is correct. That gas came from the West Texas area. That amount of gas—that is, the division between the domestic and the industrial was arrived at by deducting the total amounts furnished in the Schmidt-Connor report, divided between domestic and industrial at the other stations and deducted from the total amount sold to the Dallas and County Gas Companies, gave me specific amounts for both the domestic and industrial gas that was furnished through the Second Avenue and Lisbon Stations, the total amount being 7,663,161,000 cubic feet, and the money amounting to \$2,233,237.44, and that is the exact sale—both volume and money—made by the Lone Star Gas Company for the year 1933 to the Dallas and County Gas Companies. Now, then, the Hudnall and Central Stations are shown to be in Area C, and that particular volume of gas, both domestic and industrial, as well as the money values applied there to, are shown under Area C. The same thing is true of the Boundary Station; it is also shown under Area C. Arlington-Dalworth is a mixed gas, and also shown under Area C. The same thing is true of the West Dallas deliveries. However, the Second Avenue and Lisbon Stations cover gas which was produced and transported and sold wholly within the State of Texas; therefore, those particular deliveries are shown as being applicable to Area A. That makes our divisions between the three areas. Then it is in order to divide or show the specific amounts, both volume and money, that apply to the D operations and to the E operations. Those amounts have been given to me or furnished to me and set out in the Schmidt-Connor report for the Hudnall and Central Stations, Boundary Station, Arlington, Dalworth, and the West Texas area, and the West Dallas area, and the divisions are made in that report, showing the amount that was used or sold for domestic purposes and the amount that was

used or sold for industrial purposes. In arriving at the domestic rates, or the revenues applicable to the domestic business, the rate of 40 cents per thousand cubic feet was applied. In making the application of the industrial rates I used the average rate for the year. Perhaps it would have been more accurate had I used the average monthly rate, inasmuch as I had the monthly deliveries covering industrial gas, rather than the average annual rate.

Q. Would there have been any substantial difference, Mr. Hulcy?

A. Not a great deal. However, Mr. Griffith, covering [fol. 2425] Dallas and Fort Worth, I made a calculation on those two deliveries—that is, the gas furnished through the North Fort Worth Station at Fort Worth, and the Hudnall and Central Stations at Dallas; and had I made the monthly calculations rather than the average annual, I would have received a sum of money in excess of five thousand dollars less than I actually used for the industrial revenues applicable to the gas produced, transported and sold wholly within the State of Texas, and which I have shown here to be as D operations. Now, those are the only two points where I did make that test. Now, the same thing is true—well, it happens that in the sales to the Dallas and County Gas Companies all of the volumes out of the mixed areas were furnished in the Schmidt-Connor report, and the deliveries through the Second Avenue and Lisbon Stations, of course, were easily defined; and, therefore, all the entire amount of those sales are applicable to the D operations. Therefore, for the Dallas and County Gas Companies I find that the sales applicable to the D operations amount to a total of 6,329,769,000 cubic feet, and the revenues applying thereto are shown to be \$1,907,833.33; and the amount applicable to the E [fol. 2426] operations is 1,333,392,000 cubic feet, and the revenues are \$425,403.61; and the total volumes of gas and revenues for the D operations and the E operations are exactly the same as the total amount of gas sold to the Dallas and County Gas Companies for the year 1933.

Q. You have, therefore, accounted for all gas sold by the Lone Star Gas Company to the Dallas and County Gas Companies, regardless of the origin of the gas?

A. Yes, sir, I have—to the cubic foot and to the penny of revenue.

Q. Did you make a similar determination in respect of the Fort Worth division?

A. Yes, sir.

Q. As indicated at the bottom of page 11 of the exhibit?

A. Yes, sir, I did; and Fort Worth was handled in the same manner as Dallas and County—that is, that the larger part of the deliveries and the division between domestic and industrial sales applicable to the D operations and E operations were furnished in the Schmidt-Connor report.

Q. That is Defendant's Exhibit 45?

A. That is correct. And the same explanation that I made with reference to the Second Avenue and Lisbon Stations in Dallas applies equally to the deliveries made through [fol. 2427] the Haynes and South Fort Worth Stations at Fort Worth.

Q. Refer, please, to page 12 of Defendant's Exhibit 46. On that page you show, do you not, sales to Community Natural Gas Company?

A. Yes, sir, I do.

Q. On the A System, B System, C System, E System, F System, G System, G-3 System, and the H System?

A. Yes, sir; and also the western, southern, and eastern towns which are shown at the top of the page.

Q. Yes. Now, Mr. Huley, from what source did you get these sales?

A. These sales were taken from the records of Lone Star Gas Company—that is, of sales made to the specific towns which are included in the several systems. It might be well to refer to page 16 of this Exhibit 46. There we find a detail of the sales made to the Community Natural Gas Company, to towns located on the A System, in addition to the sales that were made to the distribution plants on the A System. I have also included all sales made to the Community Natural Gas Company along the right of way, or what we style Right of Way Customers on the A System,—thereby arriving at a total sale of both domestic and industrial gas to the Community Natural Gas Company [fol. 2428] on the A System. The same thing is set out for the B System, which includes all of the towns, as well as the sales made along the right of way. The same thing is shown on page 16 for the C System. Page 17 shows all of the sales that were made to the Community Natural Gas Company on the E System, as well as the right of way sales on that system. Page 18 shows the sales made to the

Community Natural Gas Company on the F System and on the G System, and each of the towns to which these sales are made are set out in detail on the sheet.

Q. Now, on page 20—commencing on page 20, you refer to the western, southern, and eastern towns of the Community Natural Gas Company.

A. Yes, sir.

Q. What do you mean by the western, southern, and eastern towns?

A. Those are the towns located on the K System and the O System, extending as far west as Colorado and Snyder in West Texas, coming on through Abilene, and on to Joshua; and then all sales that are made along the L and M Systems, and all sales east along the O System, as well as the J System proper; and I might also say that that includes the R System, which is located in Coleman County, Texas; and all of the towns included in that group [fol. 2429] are set out in detail on pages 20 to 23, inclusive; also the sales made along the right of way for those particular systems which are included in that group of sales.

Q. In order to accurately reflect the sales to right of way customers along the various pipe line system of the Company, did you separately identify the sales for the actual right of way consumers which the Company had on the respective systems?

A. Yes, sir, we did.

Q. And they are accounted for in this report?

A. Yes, sir, and placed on the system—that is, where the connection is located.

[fol. 2430] Q. On pages 24 and 25 and subsequent pages, do you show detailed calculations showing allocations of sales in area C to D operations and E operations?

A. Yes, I do. However, page 24 is the detailed statement of the sales to the Municipal Gas Company; that is, by systems, and the D calculations start on page 25 and go through page 27. I might add that the results obtained from the detailed calculations of the sales to the Community Natural Gas Company as set out on the several pages are brought forward and shown on page 12; that is, the summary for each of the systems. The same thing is true for the Municipal Gas Company on page 13. That the entire sales to the Municipal Gas Company are broken down by the systems in which the particular towns are located and

the detailed statements are also included in the report at the following pages. The sales are also set out for all other customers of Lone Star Gas Company, where gas is furnished at city gates.

Q. For example, at the bottom of page 13, you show the sales to Gainesville Gas & Electric Company?

A. Yes, I do.

Q. And to Southwest Light & Power Company?

A. Yes, I do.

Q. And on page 14, to Texas Cities Gas Company, Waxahachie Gas Company, Shasta Oil Company and miscellaneous sales?

A. Yes.

Q. And all those are shown as applicable to area A and [fol. 2431] area B or area C, and also applicable to D operations and E operations?

A. Yes.

Q. Now, having made those determinations, Mr. Huley, were you in a position to carry forward to your summary on page 2 of the Exhibit the allocation of sales to D operations and E operations?

A. Yes, I was. The gas sales were divided between the D operations and the E operations.

Q. It is noted that in connection with miscellaneous operating revenues, none were deemed applicable to the E operations?

A. That is correct. Those miscellaneous operating revenues come about in the West Texas area, and therefore are applicable to the D operations.

Q. Now, Mr. Huley, the first item of operating expense shown in the summary on page 2 of the report, appears to be gas purchased?

A. That is correct.

Q. On page 29 do you set forth a detail of the gas purchased for the twelve months ended December 31, 1933?

A. Yes, I do.

Q. In what total amount?

A. The total amount for gas purchased is shown to be \$1,086,587.44 and that is the total amount of gas purchased shown for the public service operations of Lone Star Gas Company, and is shown on page 2 of this exhibit. I have shown immediately under the total amount, the gas purchased [fol. 2432] in the Petrolia field in the amount of

\$1,161.72, and the gas purchased in the west Texas field amounts to \$969,079.16; making a total of \$970,240.88, and I have made a deduction from that amount to cover the west Texas gas—that is, gas which was produced and/or purchased in west Texas, which was transported through the E system and sold in the state of Oklahoma.

Q. That would be the gas which was transported and sold by the company and delivered at the city gates of Achille, Caddo, Durant and Hugo?

A. That is correct, and I might add here, Mr. Griffith, that I have assumed that that entire amount of gas was purchased. Of course, we produce and purchase gas also in West Texas area, but I have applied the gas purchased price to the total amount of gas, and have deducted that total amount.

Q. Was that the only rational assumption upon which you could proceed?

A. No, I don't believe it was the only rational assumption; I could have reduced that deduction, I believe. I think perhaps it would certainly have been looked upon as fair if I had taken the proportionate part of the gas purchased and produced in the west Texas area, and made an application to that which would have been a deduction of a lesser amount, and therefore have given me a larger amount for gas purchased in the D operations than I have used.

Q. By taking the total amount then, so determined, and deducting it from gas purchased, you get the balance covering gas purchased in the Texas Panhandle and the Oklahoma areas, of \$124,558.76?

A. Yes. It might be well to make this explanation at that point: That is not the exact amount of gas that was actually purchased in the Panhandle and the Oklahoma fields. It was something in excess of that. During the year 1933 was was put in storage in the Petrolia field and in handling through the accounts the total volume of gas put in storage was credited to the gas purchased expense at a unit cost of ten cents per thousand, and there was an amount put into storage in excess of the amount withdrawn. However, the volumes of gas put in storage in Petrolia were largely made up of Oklahoma and Panhandle gas and the thing that I was particularly interested in in this report was the D operations, perhaps even more than the E operations. Therefore, in order that the state-

ment would properly reflect, and for the reason that it was Shamrock and Oklahoma gas put in storage, that total adjustment was made against that particular gas, and not the West Texas gas, for at no time did any part of the west Texas gas go in storage in the Petrolia field.

Q. The gas that you speak of as going into storage in the Petrolia field, that is the gas that Mr. Fitzhugh was asking Mr. Schmidt about this morning?

A. Yes, that is correct.

Q. And gas stored on the so-called Miller lease?

A. That is correct.

Q. And you therefore determined, as shown by page 29 [fol. 2434] of Defendant's Exhibit No. 46, that \$962,028.68 covered gas purchased which was applicable to D operations?

A. That is correct.

Q. And \$124,558.76 was applicable to E operations?

A. That is correct.

Q. And we find those figures carried over into the gas purchased column under D and E operations respectively, on page 2 of the exhibit?

A. That is correct.

Q. Now, the next item of expense proved to be production system expense in the total amount of \$105,554.86.

A. Yes.

Q. Which is apportioned to D and E operations in the amounts of \$76,956.69 and \$28,598.17 respectively.

A. That is correct.

Q. Now, where in your report may we make reference to any working data used in connection with your determination?

A. That is shown on page 30 of the exhibit. Under production system expense, I show first well rentals and royalties in the amount of \$45,441.54. That entire amount is shown as being applicable to area A, or area B, none being shown for area C, for the reason that production system properties are located in fields, and therefore there is no mixed use of production system property and/or expense.

Q. Now Mr. Huley, the production system expense is carried by fields, is it not?

A. Yes, it is.

[fol. 2435] Q. And may be readily identified on the books of the company?

A. That is correct.

Q. So there isn't any allocation, as such, necessary to be resorted to in this connection?

A. No, sir.

Q. And on page 30, as you have stated at the top of the page, you have set forth the production system expenses which are applicable to the areas A and B respectively, and which are applicable to D operations and to E operations?

A. Yes. Now, for well rentals and royalties I have not set out on page 30 the several fields wherein those rentals and royalties were paid; they are made up as follows: The panhandle field, that is, Shamrock, in the amount of \$6,647.24. In the Petrolia field, of \$706.33. In the Oklahoma fields, of \$8,203.49, and in the west Texas area of \$29,884.48, those items making a total of \$45,441.54. Now, the amounts applicable to area A is the Petrolia field and the west Texas field in the amount of \$30,590.81, and that is the amount shown under area A on page 30 of this exhibit; an amount of \$14,850.73 for area B, and then in each case area A is transferred to D operations, and area B is transferred to E operations. Now the other production system expense is set out on page 30 by fields or districts. First I show the Petrolia district in the amount of \$19,576.05. That amount is shown to be applicable to area A, and then later transferred to D operations. The west Texas district in the amount of \$26,789.83, and that amount [fol. 2436] is shown under Area A, and also under D operations. Next, the Shamrock district, in the amount of \$2,732.20, and that amount is shown under area B and under E operations. And the same explanation holds true of the Oklahoma district in the amount of \$11,015.24, which is also included in area B and in E operations. Therefore, of the total production system expense in the amount of \$105,554.86, it is divided between D and E operations in the following amounts: \$76,956.69 for D, and \$28,598.17 for E.

Q. And as you previously stated, those are the amounts which are carried forward in the D and E columns in the summary on page 2 of defendant's Exhibit 46?

A. Yes, those are the amounts carried forward.

Q. Now, the next item of operating expense appears to be gathering system expense?

A. Yes.

Q. Is that separately kept and identified on the books, records and accounts of the company?

A. Yes.

Q. By the several gas fields wherein gathering system expense is incurred?

A. That is correct. However; they are not carried on the books in the exact manner by districts as I have them shown on page 30 of this Exhibit.

Q. Why the variation?

A. For this reason. All operating expenses are kept by districts with the exception of measuring station expense, [fol. 2437] and with some expenditures that are applicable to the entire system and to no particular district. Therefore, it was necessary to arrive at an amount for these two classes of expenditures which would be applicable to the particular districts, and that was done.

* * * * *

A. The gathering system expense as shown to the several districts; and I mean the direct gathering system expense, amounted to \$67,404.97. There is also shown, and which is included in the records of the company, an amount of \$18,051.43, which is styled common district expense. I mean by that, that that amount of expense is applicable to the entire system and not to any particular district. Therefore, I have prorated an amount of \$18,051.43 to the several districts in the proportion of the direct expense incurred for that particular district. Then in addition to that, there is also an amount of \$45,869.89, to cover the cost of maintenance and operation of measuring stations included in the gathering system. It is impossible to carry these operations by districts for this reason: Large meters [fol. 2438] may be removed from gathering system property to the central shops, where repairs are made. Some time may elapse before these repairs are actually made, and therefore it is hard to keep up with just what location these meters are from. Therefore, it was necessary that I make an allocation of this measuring station expense to the various districts, and in order to do that, we made a count of all of the measuring stations operated in the gathering system, the total being 553, broken down by districts. Then, we arrived at an average cost per measuring station to operate and maintain for the year, and that amount, multiplied by the number of measuring stations in the respective districts, gave us a figure for measuring station expense which was applicable to each particular district.

Then the direct charges made to the district, plus the prorate of the common district expense, plus the allocation of the measuring station maintenance and operating expense, gives a total figure for each particular district for gathering system expense, and that is the amount which I have shown on page 30 for the several districts, making up the gathering system of Lone Star Gas Company, in the amount of \$131,326.29. Thus the way and the manner in which these districts have been shown, they automatically segregate themselves as to the proper area and whether or not they belong in D operations or E operations. These amounts are shown as follows: Applicable to D operations \$70,068.24, and applicable to E operations, \$61,258.05. [fol. 2439] Q. And those are the figures that we find carried forward to the summary on page 2, in connection with gathering system expense as applicable to D and E operations?

A. That is correct.

Q. Now, the next item of operating expense appearing in summary on page 2 of Defendant's Exhibit 46, is transmission system expense?

A. Yes, that is correct.

Q. Where, in connection with the details of your Exhibit 46, do we find a breakdown of the transmission system expense by districts? Is that at the bottom of page 30?

A. Yes, it is, and it is shown by the several districts.

Q. Now, how was that determined, Mr. Hulcy?

A. The same explanation that I made in connection with the direct charges to the respective districts, and the allocation of the common district expense and the cost of operating and maintaining gathering system measuring station equipment, applies also to the transmission system expense. We counted the number of measuring stations operated on the entire transmission system. We also arrived at a unit cost per station per annum to operate and maintain, and then the number of measuring stations in each of these particular districts, multiplied by the average cost per annum, results in the amount of measuring station expense which has been allocated to these respective districts. However, the same thing does not hold true—that is, with reference to the automatic segregation of transmission system [fol. 2440] expense, as was true of the gathering system

expense, for the reason that in some of these pipe line operating districts, the facilities are used jointly and concurrently, that is for the transportation of the gas produced both in the west Texas area and in the Shamrock-Oklahoma area, and it might be well to refer to the map shown on page 45 of the Exhibit, which shows the pipe line operating districts as they are carried, and the divisions as they are made. First appearing at the bottom of page 30 is the Petrolia district, which is carried as District No. 1, and all distribution of charges made on the books of the company are shown for district No. 1. In order that a proper allocation of the transportation expense for this district might be calculated, I had all of the pipe lines located in this district tabulated, and from the records of the engineering department I had the miles of three inch equivalent by lines shown. There is a total of 371.8 miles of three inch equivalent pipe line in the Petrolia district, and when I say pipe line I mean the transmission pipe line and do not have any reference whatever to the gathering system property located in the Petrolia field. Of the 371.8 miles of three inch equivalent pipe, 70.7 miles was made up of the B system. The B line itself, from Petrolia to Henrietta, which is the southern boundary line of the Petrolia district, is a total of 63 miles in the Petrolia district, and the B-9 line, or the Henrietta tap, is 6.1 miles of three inch equivalent; and the B-9-1 line, which is a line going to the Texas Company pump station, is 1.6 miles of three inch equivalent. Those three make a total of 70.7 miles of three [fol. 2441] inch equivalent pipe. Therefore, I arrived at a unit cost per mile of three inch equivalent to operate for that particular district, which was \$60.73 per mile. Then, applicable to area C is 70.7 miles, at the unit cost per mile, which shows an amount of \$4,292.19 that is applicable to area C, and that amount is shown on page 30, and the amount applicable to area B is 301.1 miles, which calculated at the average cost per mile is \$18,292.85, and that is the amount shown under area B. Then in the calculation or allocation from areas B and C to D operations, it is done in this manner. The amount of \$18,292.85 for area B is transferred in its entirety to E operations; the amount of \$4,292.19 which is applicable to area C or the mixed area is divided as follows: 22.17 per cent, which is the per cent shown in the Schmidt-Connor report of the B system, as

being applicable to D operations is made and the resulting figure is \$951.58 for D operations, and \$3,340.61 for E operations. Therefore, for the Petrolia district, out of a total of \$22,585.04 as being the cost of operating the pipe lines in that district for the year 1933, \$951.58 has been allocated to D operations, and the remainder to E operations. [fol. 2442] Q. Now, those allocations were, as disclosed by page 30, only necessary in connection with the Petrolia district, the Fort Worth district, the Dallas district, and the Gainesville district?

A. That is correct. Those districts, as will be noted on the map, include the entire area which was set out in detail on the first page of Exhibit 45—that is, the B. system, the C. System, the F System, and the E System, and perhaps the J-2 System. Now, in the Fort Worth district that was necessarily handled in a little different manner, for this reason: Included in the mixed area, or applicable to Area C, we have three systems, and on each of those systems a different percentage of the total was arrived at in the Schmidt-Connor report, and it was necessary for me to use it in order to make the proper allocation of such expenses, those mixed systems being the B System and taps, the J-2 System and taps, and the C System and taps. In the case of the B System and taps, Exhibit 45 shows that 22.17 per cent of the expenses incurred should be allocated to D operations. Exhibit 45 further shows that in the case of J-2 and taps 93 per cent should be allocated to D operations, and the C System 75.21 per cent should be allocated to D operations. Now, there is a total of 561.6 miles of three inch equivalent pipe included in the mixed lines. By that I mean the lines which are used jointly and concurrently in the transportation of gas.

Q. From all sources?

[fol. 2443] A. That is correct. I allocated, on the basis of the J System, the second system which I handled, entirely as being applicable to Area B, also the Government 10-inch as applicable to Area B, and on the total of the mixed that there should be allocated to this mixed area \$14,503.41, and that is on the basis of the total miles of three-inch equivalent pipe line operated in that particular district. Then it was proper to break out in the mixed area the proper amount for the several individual systems which are used jointly and are concurrent. In making this calculation the B System and tape constitute 84.7 per cent of the total mixed area; the J-2

System and taps constitute nine-tenths of one per cent of the mixed; and the C System and taps constitute 14.4 per cent of the mixed, the total of those percentages being 100 per cent. Then it has already been determined that for the B System 22.17 per cent was applicable to D operations. Therefore I take 84.7 per cent of 22.17 per cent and arrive at a weighted per cent of 18.78, and on J-2 and taps and C and taps I arrive at a weighted per cent of the mixed which is applicable to D operations of 30.45 per cent, and that is the per cent shown for the Fort Worth district. Now, the same thing is true for the Dallas District, and it was all calculated in the same manner.

Q. What about the Gainesville district?

A. The Gainesville district? I believe that was also true of the Gainesville district. Yes, it was. I had four mixed [fol. 2444] systems involved in it—that is, the E System, the F System, the G-3 System and the G System, and the amount applicable to D operations by taking the weighted percentage of each of those particular systems, and that weighted percentage is 74.01 per cent, and that is the amount shown on page 30 of this Exhibit 46.

Q. And, of course, wherever you get a per cent applicable to D operations you automatically get the percentage applicable to E operations?

A. Yes, sir.

Q. And the result was as to Transmission System you ultimately determined that \$280,020.70 was applicable to D operations and \$151,499.86 was applicable to E operations, and those figures are carried forward into the summary on page 2?

A. That is correct.

Q. Now, the next item appearing in the summary on page 2 is Compressor Station Expenses?

A. Yes, sir; that is correct.

Q. How was that determined?

A. Compressor Stations in most cases are located in fields or in certain sections of the system where they are easily defined as to what area they should be placed in. That is true of all stations except Petrolia and except Gainesville. The larger number of the Compressor Stations of the Lone Star gas system are located in the West Texas area, there being three compressor Stations located in Oklahoma. I might add that operation expenses covering Compressor

[fol. 2445] Stations are kept by stations. However, there are certain expenses incurred, such as general superintendence, that are applicable to all the stations and not to any particular station. I have allocated this amount of common expense in the same manner that I did for Gathering System Operations and Transmission System Operations.

Q. How much of the total expenses was common expense?

A. There was a total direct charge of \$322,064.63, and the common expense amounted to \$16,368.38.

Q. In a general way how did you make that pro rata of sixteen thousand to common expense?

A. That was based the same as direct expenses applicable to each station.

Q. If we refer to page 31 do we find a detail of the operating expenses in connection with Compressor Stations as applicable to areas and which you ultimately determine to be applicable to D operations and E operations?

A. Yes, sir; we do.

Q. And do we find on page 31 that you apply \$253,516.28 to D operations and \$84,916.73 to E. operations?

A. That is correct.

Q. And that those figures are carried forward to the summary of operating expenses on page 2 of Defendant's Exhibit 46?

A. That is correct.

Q. Now, the next item of expense appearing in the summary [fol. 2446] mary on page 2 appears to be New Business Expense?

A. Yes, sir.

Q. How was that allocation made as between B and E operations?

A. New Business Expense and General Expense—that is, the same explanation applies equally to both classifications of expense—cover expenses incurred in connection with the entire public service property and operations of the company, and could not be defined by pipe lines or districts. Therefore, it was necessary that an allocation of this expense be made upon some reasonable basis. There are three ways in which this expense could be allocated, and I think that each of them or either of them would be entirely fair and reasonable. First, they could be allocated upon the basis of the property—that is, there would be some argument that expenses incurred in a general way would follow in about the same proportions

of property account. Next, they could be allocated or divided upon the basis of direct expense. By "direct expense" I mean the actual expenses which have been incurred and segregated on the Production System, the Gathering System, the Transmission System, and the Compressor Station System. I think that perhaps that would be called a fair manner in which this expense could be divided or allocated. Then, also, if they were divided on the basis of sales—that is, between the D operations and E operations—I think that that manner would be fair, or, in other words, that either way we [fol. 2447] would do that, I believe it would be above criticism. Well, I have used and have made all my calculations on each of those basis. On the basis of property, 64.22 per cent of the total New Business Expense and General Expense would be applicable to D operations and 35.78 per cent applicable to E operations. Now, on a basis of sales, which has already been determined for both D and E operations, 73 per cent would have been applicable to D operations and 27 per cent to E operations, and on the basis of direct expenses other than gas purchased there would have been 68 per cent applicable to D operations and 32 per cent to E operations. I have used the smallest of all three, which is based upon property, and it makes a difference of about three per cent of what the weighted average of those three would amount to over and above that amount which I have used, and if it were to be reduced to a calculation, it is something in excess of thirty thousand dollars that could have been placed against D operations.

Q. Mr. Hulcy, you said thirty thousand dollars. Did you not mean three thousand dollars?

A. Not of the total, Mr. Griffith. The total of the expenses is approximately one million dollars.

Q. That covers both?

A. New Business and General Expense.

Q. Now, is it a General Expense?

A. Yes, sir.

Q. As far as New Business Expense is concerned, you find that \$64,087.66 is applicable to D operations and \$35,706.28 [fol. 2448] is applicable to E operations?

A. That is correct; yes, sir.

Q. And the next item appearing in the summary on page 2 of Exhibit 46 is General Expense, and you have divided that General Expense as between D and E operations in the

same manner that you divided New Business Expenses and for the same reasons?

A. Yes, sir; that is correct, and each of those amounts has been transferred to this general summary on page 2 and divided between D and E operations.

Q: Now, the next item appearing in the summary on page 2 appears to be Uncollectible Bills?

A. Yes, sir.

Q. They are divided as between D and E operations?

A. Yes.

Q. What is the factual basis, if any, for that division of Uncollectible Bills?

A. I do not have any detailed papers included in this exhibit. They are all covered—that is, in my working papers—and an analysis was made of the uncollectible accounts by locations.

[fol. 2449] Q. That is where the sales were made?

A. Yes, sir; and from those locations this allocation was made in the amount of \$4,555.25 applicable to "D" Operations, and \$1,975.52 applicable to "E" Operations.

Q. Now, Mr. Hulcy, the next item of expense appears in the summary on page 2 of Defendant's Exhibit 46 as Taxes Other Than Federal, which total \$221,192.90 as applied to "D" Operations, and \$139,284.01 as applied to "E" Operations?

A. That is correct.

Q. In your exhibit do you give a breakdown of the Taxes which are applicable to "D" and "E" Operations?

A. Yes, sir; I have. The details of *Texas* are set out on pages 34, 35, and 36.

Q. Will you please describe in a general way, Mr. Hulcy, how you found the taxes applicable to the "D" and "E" Operations, respectively?

A. Before I reply, I should have included page 33 as being one of the detail pages covering Taxes. A detail analysis was made of all the taxes paid by the Company for the year 1933, and in most all cases we were able to apply the tax payments to specific items of property by location by lines; for instance the Production System Property, which is shown on page 33—that is for the gas producing properties—those taxes were broken down by counties, and each of the tax payments by counties automatically segregate themselves as to whether they will apply to Area "A" or Area "B", and

[fol. 2450] from those areas into "D" Operations or "E" Operations.

Q. In other words, it was not necessary to resort to any allocation?

A. No, sir; it was not. All we had to do was to completely analyze the taxes that applied to the gas producing properties in the respective counties shown on page 33.

Q. And was the same true in respect of Undeveloped Leaseholds?

A. Yes, sir.

Q. And a great part of the Transmission System and Gathering System property?

A. Well, yes; that is true to a great part. However, as long as we were working and completely analyzing the tax expense accounts, even on those systems wherein a joint or concurrent use of gas was not involved, we went ahead and did completely break down the taxes in those respective areas also. The detail of Taxes applicable to Gathering and Transmission System Properties is shown on page 34 of the exhibit broken down by systems, with three exceptions, and they are shown to be West Texas lines not detailed. In the Eastland-Stephens County Area of West Texas there are a great number of lines and it was almost impossible to completely analyze the amount of taxes that applied to each particular line. However, that was not necessary, for the reason that all of the West Texas Area was included in Area [fol. 2451] "A", and that amount was likewise transferred to "D" Operations. The same thing is true for the Wheeler County Lines. There are a great number of gathering lines located in the Wheeler County District. However, the entire Wheeler County property is shown to be applicable to Area "B", and the total of Area "B" as transferred to "E" Operations; so, therefore, it was not necessary to make an allocation or complete breakdown of the taxes paid by specific lines in those territories.

Q. The lines in West Texas were in Area "A"?

A. That is correct; and the lines in Wheeler County in Area "B". Now, there were certain lines and certain classes of property included on page 34 of the Transmission System, which were used jointly and concurrently. For instance, the "B" System, exclusive of the 20-inch, the taxes for that particular system are shown to be \$3,768.25. That entire amount is shown in Area "C", and 22.17 per cent of

the amount in Area "C", or \$835.42, is applicable to "D" Operations, and the remainder to "E" Operations.

Q. That is the use of the Line "B" on a time-volume basis, as determined in the Schmidt-Connor exhibit 45?

A. That is correct.

Q. And the other percentages which are applied to the facilities which are jointly and/or concurrently used, are [fol. 2452] they similarly taken from the Schmidt-Connor Exhibit 45?

A. That is correct; they are.

Q. So, in that manner, you have determined the amounts applicable to "D" and "E" Operations covering Gathering and Transmission System Property?

A. That is correct.

Q. In Compressor Stations it is noted that only in respect of the Petrolia and Gainesville stations have you been compelled to resort to any allocation?

A. That is correct.

Q. Were you able to separately identify the tax payments in respect of every other compressor station of the Company?

A. We were.

Q. On what basis did you make the allocation of taxes as between "D" and "E" Operations as between the Petrolia and the Gainesville Stations?

A. In the case of the Petrolia Compressor Station, there is a total of 7,710 horsepower installed in that station, and the units which are dedicated to the handling of Petrolia Field gas are 2500, or 32.48 per cent of the total horsepower installed in the Petrolia Station as used for the Petrolia Field gas; and for that reason I have used that percentage of the total taxes paid on the Petrolia Station of \$7,548.48, which gives me an amount of \$2,451.75 as being applicable to "D" Operations, and \$5,096.73 as being applicable to "E" Operations.

[fol. 2453] Q. And both of which figures are shown on page 35 of the Exhibit?

A. That is correct.

Q. Now, how was the proration or allocation made in connection with the Gainesville Station?

A. The Gainesville Station was handled on the same basis of allocation between the "D" and "E" operations as shown for Line F in the Schmidt-Connor report. That was determined by them.

Q. Now, in connection with the Miscellaneous Property, the Taxes on the Miscellaneous Property appearing at the bottom of page 35, how were the taxes allocated as between the "D" and "E" Operations?

A. On the same basis as division of direct property—that is, of this same property—when the allocation was made from Area "C" to "D" Operations and "E" Operations, was made on the basis of 64.22 per cent and 35.78 per cent; therefore, it was assumed by me that taxes would follow the property, and that would be the proper percentage to use in allocating the taxes as was used for dividing the General System Property.

Q. You, therefore, determined that the total of Taxes applicable to "D" Operations was \$221,192.90?

A. That is correct.

Q. And that the amount of Taxes applicable to "E" Operations was \$139,284.01?

[fol. 2454] A. That is correct.

Q. And those figures are set forth on page 36 of the Exhibit Number 46?

A. That is correct.

Q. Now, the next item appears to be Cancelled and Surrendered Leases?

A. That is correct.

Q. Where do you show the details in connection with the expenses on Cancelled and Surrendered Leases?

A. The detail is shown on page 32 of the Exhibit, and is set out in detail by counties in Texas and Oklahoma; and, as previously stated, in the case of the Production and Gathering System Property, the location by counties automatically segregates this class of expense between "D" Operations and "E" Operations.

Q. And you so classify the expense of Cancelled and Surrendered Leases on page 32?

A. Which I have, in the amount of \$132,605.38 for "D" Operations, and \$56,024.54 for "E" Operations; and each of those amounts have been transferred to page 2 of this exhibit.

Q. You have now explained, Mr. Hulcy, the total of the Operating Expenses which you have considered as applicable to "D" Operations and "E" Operations, respectively, as set forth in the summary on page 2 of Defendant's Exhibit 46?

A. Yes, sir; I have.

[fol. 2455] Q. The next item appearing in the summary is Non-operating Revenues. How were the non-operating revenues determined, as applicable either to D or E operations, as the case might be?

A. I do not have the detailed calculations set out in the exhibit. However, they are included—that is, in my working papers. The other non-operating revenues are made up largely of rentals received from the general office building located in Dallas, also from cottage rentals received from different parts of the system. The rents from the general office building were divided on the same basis as the building was divided, namely, 64.22 per cent as applicable to D operations, and the remainder being applicable to the E operations. Now, in the case of rentals from cottages which are located in the fields, those rentals were divided according to the location; I mean by that any rentals that were received from cottages in the West Texas area; and such property accounts being included in that area, the rentals were divided on the same basis and against the specific property.

Q. The rentals on cottages in the Central West Texas gas area would go to D operations, would they not?

A. That is correct.

Q. And rentals on cottages, for example, in the Duncan [fol. 2456] District, would go to E operations?

A. That is correct.

Q. And that was, in general, the basis of the division?

A. Yes, sir; I have them all worked out—that is, each particular location.

Q. If counsel for the State desire the details of that, you will be glad to give it in connection with your cross examination?

A. Yes, sir, I will.

Q. Upon the basis of your determination, then, \$39,520.24 of non-operating revenues were applicable to D operations, and \$21,677.98 applicable to E operations?

A. That is correct.

Q. You have now reached the point in your summary on page 2 of Exhibit 46 where you show the gross income of the Company?

A. Yes, sir.

Q. Now, there are certain non-operating revenue deductions appearing in the summary on page 2,—the first being Federal income tax?

A. Yes, sir, that is correct.

Q. You have previously testified that that is a calculated amount.

A. That is correct.

Q. How did you determine the calculated amount of that [fol. 2457] Federal income tax?

A. That was determined in this manner: Under D operations the amount of gross income, namely, \$3,043,817.37, was shown, and the amount of other non-operating deductions, in the amount of \$17,465.74, was deducted; there was also deducted an amount equal to five per cent of the total property account—that is, the cost of property as reflected by the books as a depreciation and depletion allowance. Then the remainder being calculated at the rate of 13.75 per cent, it results in an allowance of \$195,572.34; and the same thing—

Q. Of course, Federal income tax is applicable to D Operations?

A. That is correct.

Q. And in the same manner you determined that \$27,759.00 was applicable to E Operations?

A. That is correct.

Q. Did you explain the other non-operating deductions?

A. No, sir, I didn't. Other non-operating deductions is made up entirely of the cost of operating the general office building, and that expense was divided—that is, in the same proportion that the building was divided, and that the rentals received from the building were divided, and that is 64.22 per cent.

Q. Applicable to D Operations?

A. That is correct, yes, sir.

[fol. 2458] Q. And the balance applicable to E Operations?

A. That is correct, yes, sir.

Q. Following those steps through in succession, now in the summary on page 2 of Exhibit 46, you have determined the net amount available for depreciation and return, expressed in dollars, and applicable, too, to the total of the property and to the D Operations and the E Operations, respectively?

A. Yes, sir, I have.

Q. What have you next set forth, Mr. Huley?

A. The property account, which is the actual cost as reflected by the books of the Company at December 31, 1933.

Q. In what amount?

A. In the total amount of \$49,837,026.06.

Q. Now, you show that the amount available for depreciation and return, when expressed as a percentage of the actual cost as reflected by the books, is 7.81 per cent?

A. That is correct.

Q. Mr. Hulcy, how did you divide the property as applicable to D and E Operations?

A. Well, sir, the property was divided as to D and E Operations in almost the same manner that I have divided operating expenses, particularly with reference to Production System Property, Gathering System Property, [fol. 2459] Transmission System Property, and Compressor Station Property; and the General Property was divided in the same manner that the General and New Business Expenses were divided. However, the detail showing the division of property based on actual cost as reflected by the books, is set out on pages 38, 39, and 40 of this Exhibit 46.

Q. And is that in fairly complete detail, so that a check may be made against the actual cost of the property as reflected by the books?

A. Yes, sir, it is. I start off with the total before any segregations are made—that is, into the Area A, Area B, or Area C; therefore, anyone wouldn't have any trouble in checking the property and reconciling it to the amount shown on the books.

Q. And, of course, having determined the amount applicable to D Operation, you have thereby automatically determined the amount applicable to E Operations?

A. That is correct, yes, sir.

Q. In connection with Transmission System Property, for example, it is noted that on the B System you allocate to D Operations 22.17 per cent?

A. Yes, sir.

Q. And that is the same percentage which you used in connection with the operating expenses of Line B and [fols. 2460-2461] tap lines, is it not?

A. Yes; however, I think it should be stated, Mr. Griffith, that the per cent I have used is the per cent of Area C and not of the total B System—that is for the reason that the B 20-inch has been shown as applicable to Area B, and I have only used the 22.17 per cent of the amount shown in Area C, which does cover the B 16-inch and its taps.

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[fol. 2462] Redirect examination continued.

Questions by Mr. Griffith:

Q. Mr. Huley, when we adjourned last evening you were explaining the allocation of property accounts as applicable to D and E operations, and I believe that specific reference had been made to the allocation of Line B as set forth on page 41 of the exhibit.

A. Yes, sir.

Q. In a similar manner to the manner in which the Line B was allocated to D and E operations, were allocations made of the other lines and systems for which percentages are shown on page 41?

A. On page 41 or—I believe it is page 38, isn't it?

Q. Page 38 is correct, Mr. Huley.

A. Yes, the other systems which are used jointly and [fol. 2463] concurrently have been handled in the same manner as was Line B, or rather B System.

Q. Of course, in connection with a great part of the Transmission System Property it was not necessary to make an allocation?

A. That is correct.

Q. Because it was outside of the area which was jointly and/or concurrently used for the transportation of gas from both Oklahoma and Texas?

A. That is correct.

Q. Come over to page 39 of Defendant's Exhibit 46, Mr. Huley.

A. Yes, sir.

Q. And please explain the classification of property applicable to D and E operations, in respect of the Compressor Station Property.

A. The large part of the Compressor Station Property is located in the West Texas area, and such stations are used exclusively for the compression of gas which is purchased and/or produced, transported and sold wholly within the State of Texas. Therefore, those particular stations are shown in Area A, and have been transferred in their entirety to D operations; likewise, there are certain Compressor Stations that are located in Oklahoma and have to do with the compression of Oklahoma gas entirely. Now, [fol. 2464] it will be noted with reference to the Petrolia Compressor Station, the percentage used in connection with that station, as applicable to D operations and E oper-

ations, was made in connection with the property, and those proportional amounts were shown under Area A and Area B, and are handled in exactly the same manner as if they had been put in Area C and then transferred to the D operations and E operations, or, in other words, the percentages developed are the ones used for transferring to D operations and to E operations. In the case of the Gainesville Compressor Station, which is shown in Area C, and is used exclusively for the compression of mixed gases; then the percentage is used by me shown in the Schmidt-Connor report for the segregation of property applicable to D operations and E operations. Therefore, the total investment as per the books has been divided in the following amounts: D operations, \$3,575,455.14, and to E operations, \$1,464,435.77.

Q. The next item appearing on page 39 of Defendant's Exhibit 46 is Gas Connections?

A. Yes, sir.

Q. Allocated as between D operations and E operations?

A. Yes, sir.

Q. What are these Gas Connections, Mr. Huley?

[fol. 2465] A. These gas connections are the connections which are used in furnishing service to customers along rights of way, main line customers, and this segregation is based upon the location of where those connections are.

Q. Relatively small, as compared to the total property?

A. That is correct, yes, sir.

Q. Based upon that allocation, \$12,638.76 was determined to be applicable to D operations and the remainder of \$2,451.23 determined to be applicable to E operations?

A. That is correct.

Q. Refer, please, to page 40, and explain in a general way how the General Property was determined to be applicable to D or E operations, as the case may be.

A. With the exception of two items appearing in the General Property, which are Undistributed Intangible Property and Completed Construction, these charges were divided or allocated between D and E operations on the basis of direct property. I mean by that that physical property—that is, Production, Gathering, Transmission, Compressor Station, and Gas Connections, which are segregated and allocated to D operations and E operations, carry a percentage of 64.22 per cent applicable to D operations and 35.78 per cent applicable to E operations. Therefore,

[fol. 2466] I have used that percentage in determining what amount of the General System Properties should be allocated to the D operations and E operations. Now, the Undistributed Intangible Property in the amount of \$200,000.00 is the value placed on a contract—that is a cost to the Company of a contract which was executed covering sales of gas in the West Texas area, and therefore applies to D operations; Completed Construction, in the amount of \$15,987.46 is divided upon the basis of the several items making up that total amount, and the 83 per cent shown for D operations and 17 per cent for E operations happens to be the percentage of the items after they are definitely located; or, in other words, the percentage was derived from the actual charges, and the charges were not derived from the percentages, but in order to complete it the per cent was shown on that phase, and therefore the total of the General System Property applicable to D operations is shown to be \$1,140,626.43, and the amount applicable to E operations in the amount of \$519,403.62.

Q. Now, Mr. Huley, have you completed an explanation of how you segregate the property of the Company as being applicable to what you have described in Defendant's [fol. 2467] Exhibit 46 as D operations, on the one hand, and E operations, on the other hand?

A. Yes, sir, I think that completes the explanation, Mr. Griffith.

Q. At the bottom of page 40 of Defendant's Exhibit 46 do you show a summary or recapitulation of the property determined to be applicable to D operations and E operations, based upon the actual cost of the property as reflected by the Company's books at December 31, 1933.

A. Yes, sir, that is shown in summary form at the bottom of page 40.

Q. Is what respective amounts?

A. As applicable to D operations, \$32,080,146.32, and applicable to E operations, \$17,756,879.74, the total of those two amounts equaling the total of \$49,837,026.06, which is the total property account of Public Service Property of Lone Star Gas Company, as reflected by its books at December 31, 1933.

Q. And which three figures are carried forward to the summary on page 2 of the exhibit?

A. Yes, sir, that is correct.

Q. Now, Mr. Huley, in your testimony up to this time have you accounted for the Operating Revenues of the Company?

[fol. 2468] A. Yes, sir, I have.

Q. Have you accounted for the Operating Expenses?

A. Yes, sir, I have.

Q. Have you accounted for the Non-Operating Revenues?

A. Yes, sir.

Q. And the Non-Operating Deductions?

A. Yes, sir.

Q. The Property Account?

A. Yes, sir.

Q. Both as a total and as applicable to what you have styled D and E operations in your exhibit?

A. That is correct, yes, sir.

Q. Now, as reflected by the summery on page 2 of Defendant's Exhibit 46, when expressed as a per cent of the Property Account what amount is available for Depreciation and Return?

A. On the total property a per cent of 7.81, and for the D. operations, 8.82, that is for both Depreciation and Return; and for E operations, 5.98 per cent for both Depreciation and Return.

Q. Now, that doesn't mean that for the calendar year of 1933, the Company had available for net profit on the total cost of its property, 7.81 per cent?

A. No, sir.

Q. Or 8.82 per cent as applicable to D operations, or [fol. 2469] 5.98 per cent as applicable to E operations?

A. No, sir, it does not. First, before net profit could be computed it would be necessary to deduct therefrom the necessary amount for both depreciation and depletion as well as amortization.

Q. What percentage for Depreciation, Depletion and Amortization did the Railroad Commission of Texas allow in its order in Gas Utilities Docket No. 75?

A. I think the percentage was 2.09.

Q. Using the round figure of two per cent, Mr. Huley, as being the allowance for Depreciation, Depletion and Amortization to which the Company would be entitled, what then would be the net amount, expressed as a percentage and applied to the cost of the property, which the Company

had available for net profit or net return for the year 1933, in respect of the total property and as applicable to D operations and E operations, respectively?

A. For D operations there would be approximately 6.82 per cent available for profit or return, and for E operations approximately 3.98 per cent as available for return or net profit.

Q. Mr. Hulcy, the summary on page 2 reflects the actual revenues and expenses of the Company during the calendar year 1933?

A. That is correct, they do.

[fol. 2470] Q. And is based upon the actual collection by the Company of the 40-cent city gate rate for domestic gas?

A. That is correct.

Q. Now, what is shown in the summary on page 3 of Defendant's Exhibit 46?

A. Page 3 of Exhibit 46 is a statement of the Revenues, Expenses, and so forth, and prepared in exactly the same manner as the summary shown on page 2, with this exception—that it is giving effect to a 32-cent gate rate—that is, in lieu of the actual 40-cent gate rate which was used and collected upon by the Company and which is set out on page 2. In other respects the statement is the same as shown on page 2,

Q. Of course, by the reduction of revenues the calculation of Federal Income Tax results in a small computed Federal Income Tax?

A. That is correct, yes, sir; it is computed upon the basis of the net profit, after an allowance for depreciation.

Q. With those two exceptions—that is, the giving effect to the 32-cent domestic gate rate prescribed by the Railroad Commission in its order and the calculation of Federal Income Tax, is there any change in the summary on [fol. 2471] page 3, as compared with the summary on page 2?

A. No, sir; other than that they are alike in all respects.

Q. But those changes, of necessity, made for a different percentage as being available for Depreciation and Return?

A. That is correct.

Q. Now, what are the percentages which would have been available for Depreciation and Return to Lone Star Gas Company on the actual cost of its Public Service Property

for the calendar year of 1933, giving effect to the Commission's order prescribing a 32-cent domestic gate rate?

A. There would have been available 5.88 per cent for both Depreciation and Return.

Q. On the total of the property?

A. That is correct, on the total of the Public Service operations, and, likewise, that has been divided and the statement shows that available for D operations there would have been 6.65 per cent for both Depreciation and Return, and for E operations 4.48 per cent available for both Depreciation and Return.

Q. Mr. Hulcy, if we would use the round figure for Depreciation, Depletion and Amortization allowed by the Commission, of two per cent, what would have been the net amount, expressed as a percentage, available to the Company [fol. 2472] for profit or net return for the calendar year of 1933, giving effect to the 32-cent city gate rate prescribed by the Railroad Commission in its order?

A. On the Total Property there would have been available for profit, 3.88 per cent, and for D operations 4.65 per cent, and for E operations 2.48 per cent.

[fol. 2473] Q. Mr. Hulcy, refer, please, to page 4 of Defendant's 46. What do you show in the summary which appears on page 4?

A. Page 4 is a statement of revenues, expenses and amount available for depreciation and return for the twelve months ended December 31, 1933; and made in all respects the same as the summary shown on page 2, with the exception that instead of using the actual cost of the public service property as reflected by the Company's books, I have used the present value of the property as shown by Mr. P. McDonald Biddison in an appraisal dated January 1, 1933.

Q. That is the appraisal which we know in evidence here as Defendant's Exhibit 28?

A. That is correct. However, this was based upon the present value as determined by Mr. Biddison, and I am not familiar with just the exhibit number on that.

Q. Do you refer, Mr. Hulcy, to the reproduction cost new as determined in Defendant's Exhibit 28, less the observed depreciation as determined in Defendant's Exhibit 37, which was introduced by Mr. Biddison?

A. Yes, sir; in his report on condition of property. Now, I might add that the total amount shown by me is not the

total amount determined by Mr. Biddison as the present fair value of the property and business of Lone Star Gas Company.

Q. That is based upon reproduction cost new less observed depreciation?

[fol. 2474] A. That is correct. Mr. Biddison has included in his appraisal an amount to cover going concern value. I have not used going concern value.

Q. And you have not used cost of reproduction of the business?

A. No, sir; I have not.

Q. Why was that not done?

A. Well, Mr. Griffith, cost of reproduction of business, or going concern value, is something that is, perhaps, applicable to several different things. It does not apply altogether to property, but does in connection with the business and markets as well; and, therefore, I did not feel that I was in a position to break that down as between "D" and "E" operations, as in the case of property; so for that reason I omitted it and left it out altogether.

Q. If we refer to pages 41, 42, and 43 of your Exhibit, Mr. Hulcy—that is, Exhibit 46—do we find on those pages a breakdown of the property applicable to Area "A", Area "B", and Area "C", and which you determined to be applicable to "D" Operations and "E" Operations, respectively?

A. Yes, sir; we do.

Q. Will you please relate, in a general way, the method you followed in the determination of the property applicable to "D" and "E" Operations, respectively?

A. The method used by me in the preparation of these particular statements was the same as was used in con-[fol. 2475] nection with the similar statements made to cover the actual cost of the property. However, it was necessary in order that this statement be prepared that we work from the appraisals which were submitted in evidence in this case. Also, it was necessary to take into consideration Exhibit 37 which was sponsored by Mr. Biddison and put in as evidence in this case.

Q. That is the exhibit on the per cent condition of the property?

A. Yes, sir; that is correct. Therefore, it was necessary that the reproduction cost new plus the proportionate amount of overheads be determined for each particular

class of property, and in some cases, such as the "B" System, the "C" System, the "F" System, the "G" System, and part of the J-2 System, that those particular classes of property be broken down in their entirety; that is, by their several units making up the total of the system, in order that we could allocate to "D" and "E" Operations; and then it was necessary that the per cent condition found by Mr. Biddison be applied to the reproduction cost of these several units. With that exception, the same procedure was followed all the way through as was used by me in breaking down the actual costs of the property as reflected by the books. However, on page 42, at the bottom of that page, it will be noted that I have shown a total of the Direct Property, and from those totals is shown [fol. 2476] that 61.91 per cent is applicable to "D" Operations, and 38.09 per cent is applicable to "E" Operations.

Q. Now, that percentage of 61.91 per cent would be comparable with the figure or percentage of 64.22 per cent which you determined to be applicable to "D" Operations based upon a segregation which, in turn, was predicated upon the actual cost of the property as reflected by the books?

A. That is correct, yes, sir; and those are the percentages which I have used to transfer the General System Property into "D" and "E" Operations; also the non-physical values which are shown on page 43—that is, I have used the same percentages.

Q. In the summary at the bottom of page 43, you reflect the segregation of property applicable to "D" Operations and to "E" Operations by the various classifications—that is, production system property, gathering system property, transmission system property, compressor station property, general system property, and non-physical values?

A. Yes, sir; I do.

Q. And you determined that \$38,350,882.32 is applicable to "D" Operations?

A. Yes, sir.

Q. And that \$23,594,250.84 is applicable to "E" Operations?

A. That is correct.

Q. And do we find those figures are carried forward to [fol. 2477] the summary on page 4 of the exhibit?

A. That is correct, yes, sir.

Q. Now, Mr. Hulcy, is page 4 based upon the actual revenues and operating expenses of the Company for the calendar year 1933?

A. Yes, sir; it is.

Q. And the actual revenues, do they include the collection by the Company of the domestic city gate rate of 40 cents per 1000 cubic feet of gas?

A. Yes, sir; they do.

Q. This expressed as a percentage in relation to the reproduction cost new of the property as determined by Messrs. Biddison, Steinberger, and Connor, less obsolescence depreciation as determined by Mr. Biddison in his Exhibit 37, but excluding going value or cost of reproduction of the business, when expressed as a percentage, what amount is available for return on the total property—return and depreciation?

A. For both depreciation and return on the total of the property there is 6.42 per cent available; and for "D" Operations, 7.49 per cent available; and for "E" Operations, 4.66 per cent available. That is for both Depreciation and Return.

Q. And do you use the term "depreciation" as covering and including not only depreciation, but depletion and amortization as well?

[fol. 2478] A. Yes, sir; I do.

Q. Now, what appears on page 5 of the exhibit?

A. Page 5 is a statement of the Revenues and Expenses of the public service operations of Lone Star Gas Company for the Twelve months ended December 31, 1933; and is prepared in the same manner as the statement shown on page 4, with the exception that I have given effect to a 32-cent domestic gate rate; that is, I have used that rate in lieu of the actual rate being charged by the Company and which was charged during the year 1933. It will also be noted that on page 5 of this statement, there is not shown any allowance whatever for Federal Income Tax.

Q. Why is that, Mr. Hulcy?

A. Well, with the reduced gross revenues which we would have if a 32-cent rate had been in effect, and the necessary amount of depreciation—that is, upon the basis upon which I have calculated it—there would have been no net profit left on which the Company would have been forced to pay a Federal Income Tax.

Q. In other words, the per cent of 4.84 per cent which was available for both depreciation and return would have been consumed by the requirements of the Company for depreciation, depletion and amortization?

A. That is correct, yes, sir.

Q. And except in connection with the calculation of Federal Income Tax, and except that you have given effect [fol. 2479] to the 32-cent domestic gate rate as fixed and prescribed by the Commission's order in Gas Utilities Docket No. 75, is the summary on page 5 prepared in all essential respects in a similar manner to the summary which appears on page 4?

A. That is correct.

Mr. Griffith: That is all.

The Court: Stand aside, Mr. Huley.

Mr. Griffith: If you don't mind, Mr. Fitzhugh, we would prefer that you cross-examine the witness Schmidt first. My reason for that is that this report of Mr. Huley's is based in part on Exhibit 45.

Mr. Fitzhugh: All right.

The Court: Come around, Mr. Schmidt.

(Thereupon the witness D. A. Huley was temporarily excused, and the witness E. F. Schmidt recalled.)

E. F. SCHMIDT, a witness for defendant, recalled, testified as follows:

Cross-examination.

Questions by Mr. Fitzhugh:

Q. Mr. Schmidt, all of the gas produced in West Texas, or purchased in West Texas passes through the Joshua plant, does it not?

[fol. 2480] A. Passes by the Joshua plant.

Q. And passes through the Joshua plant, does it not?

A. No; it does not.

Q. Now, there are two compressor plants at Joshua—Number One and Number 2?

A. Yes, sir.

Q. Isn't it a fact that all of that gas goes through either one or the other?

A. No, sir.

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Q. What is the purpose of the Number One plant at Joshua?

A. The purpose of the Number One plant is to stabilize the gas coming from West Texas.

Q. And what is the purpose of the Number Two plant?

A. To boost the pressure on such gas as is delivered south of Joshua into the Waco, Bryan, Temple Division.

Q. That is Line "L", isn't it?

A. Lines "L" and "M".

Q. Now, what is the B. T. U. content—first, you better explain to the jury, Mr. Schmidt, what is meant by B. T. U.?

A. B. T. U. is the British Thermal Heat Units in a cubic foot of gas.

Q. How did you determine the British Thermal Unit content, or the B. T. U.'s in a volume of gas?

A. It is determined calorimetrically. A certain amount of gas when burned gives off a definite amount of heat, and this heat is referred to as British Thermal Heat Units. [fol.2481] That is really a comparison of the value of gas—

Q. For heating purposes?

A. Yes, sir.

Q. Now, then, what is the British Thermal Unit content of the West Texas gas before it ever comes to the Joshua Station?

A. It varies.

Q. Well, what does it average?

A. It will average around 1200 B. T. U.'s.

Q. Does that mean 1200 B. T. U.'s per cubic foot of gas?

A. Yes, sir.

Q. Now the Company has a number of contracts for the delivery of gas to distributing companies throughout the states of Oklahoma and Texas?

A. Yes, sir.

Q. Most of these contracts have in them, Mr. Schmidt, a provision as to the British Thermal Unit content of the gas to be delivered?

A. A good many of them do.

Q. What is the ordinary B. T. U. content required by these contracts?

A. I believe most of them where it is mentioned at all refer to a heat value of 950 B. T. U.'s.

Q. Now, this West Texas gas, I believe you say, averages 1200 B. T. U.'s?

A. Yes, sir.

Q. So that you can drop down the B. T. U. content of the [fols. 2482-2483] West Texas gas and still fulfill all your contract provisions, can you not?

A. Yes, sir.

Q. And that is the purpose, isn't it, of the Number One compressor station at Joshua, to dilute the B. T. U.'s in that West Texas gas?

A. In order to give service to our customers entirely.

Q. Well, they would get more heat out of the 1200 than the 950, wouldn't they?

A. No, sir; they would not. The domestic consumer would not get the advantage of the additional heat units.

Q. Why the burner tips could be very well adjusted at the consumer's premises to take care of, and consume, and properly combust gas with a 1200 B. T. U. content, couldn't they?

A. Mr. Fitzhugh, if it were possible to supply our customers north and east of Joshua with gas entirely of the same heat value, the burners could be adjusted so that they would take advantage of it,—

Q. Yes, sir.

A. —but where most of our property in that direction is so situated that they would be getting at one time a high heat value gas, and another time a lower heat value gas, it is impossible to adjust a burner to take care of those conditions.

[fol. 2484] Q. All right. Now, then, Mr. Schmidt, if the consumers being furnished gas at the burner tip are given a constant supply of gas having a 1200 B. T. U. content their burners can be adjusted so as to properly combust and use every bit of the heating value in that gas, can they not?

A. No; there isn't a burner that is manufactured that will.

Q. Well, within reasonable limits, of course?

A. Well, the efficiency is rather low in any burner.

Q. Well, it is that way with any burner, isn't it?

A. Yes, sir.

Q. You don't burn all the gas, ever?

A. Yes, you burn it, but you don't utilize all the heat.

Q. But there is possibly twenty per cent more theoretical heating value in the 1200 B. T. U. gas than the 950?

A. That is correct theoretically.

Q. Well, actually there would be that much more heat, wouldn't there?

A. Not from a practical standpoint?

Q. Well, you are taking into consideration now the fact that you wouldn't have a steady flow of the 1200 B. T. U., aren't you.

A. Those are the things we have to take into account to give service to our customers.

Q. All right. Now, at this No. 1 compressing plant at Joshua you introduce into the line—this is Joshua right [fol. 2485] here, isn't it, on the map?

A. That is correct.

Q. The West Texas line that runs into Joshua is Line K?

A. K and O.

Q. K and O. Now, both Line K and Line O bring in this 1200 B. T. U. gas from West Texas?

A. That is right.

Q. Now, at the Joshua compressing plant No. 1 you put into those lines enough inert gas to dilute the B. T. U. content down to around 1,000, don't you?

A. That is correct.

Q. Then that gas goes through Line O to Dallas and East Texas?

A. That is correct.

Q. Part of that gas comes down through Line L and Line M to points south and east of Joshua?

A. That is right.

Q. And then that gas goes on through Line J toward Fort Worth and the other lines intersecting it around Fort Worth?

A. That is correct.

Q. Now, the No. 2 Compressing plant has nothing to do with the operation of Line K, J or O, does it?

A. No, sir.

Q. But is used simply to shove the gas down Lines L and M?

A. That is right.

Q. Do you know for the year 1933 the volume of gas coming through Lines K and O from West Texas and going through the No. 1 compressing station at Joshua?

[fol. 2486] A. It doesn't go through the No. 1 Joshua station.

Q. Well, going by the No. 1?

A. No, sir; I do not have the figures.

Q. Do you know the volume of inert gas that the No. 1 compressing station at Joshua puts into the gas passing through Lines K and O?

A. I do not have the figures available; no, sir. That varies, depending upon the quantity of gas coming from West Texas and the heating value of the gas coming from West Texas, so that the gas passing east of Joshua is maintained at a heat value of approximately 1,000 or 1,010.

Q. But when that gas coming from West Texas averages about 1200 B. T. U.'s per cubic foot and it is diluted down to about a thousand, that means you put about twenty per cent into the volume as inert gas?

A. The actual average is about 15 or 16 per cent.

Q. Now, what do you mean when you say "inert gas", Mr. Schmidt?

A. That is gas with mostly nitrogen, some carbondioxide.

Q. You mean a gas that is not capable of producing a combustible mixture in the line?

A. That is correct.

Q. That is, it has no oxygen in it at all?

A. Yes, it has some oxygen.

Q. But not much, not enough to make a combustible mixture in the line?

[fol. 2487] A. That is right.

Q. How do you manufacture the inert gas that you introduce into the lines from the No. 1 compressing plant at Joshua?

A. By burning gas.

Q. You mean you combust natural gas and then shoot the residue into the line?

A. That is right.

Q. How much of the natural gas does it take to produce the volume of inert gas introduced into the lines for the year 1933?

A. I haven't the figures here.

Q. Well, do you know what the ordinary ratio would be—how much natural gas does it take to produce the inert gas?

A. Well, to produce it and introduce it into the line, I would say about one cubic foot of natural gas to seven of the inert.

Q. So that after combusting one foot of natural gas you would get about seven cubic feet of inert gas?

A. Approximately that.

Q. Approximately that. Now, what is the specific gravity of the inert gas?

A. Slightly in excess of one.

Q. That is, it is a trifle heavier than air?

A. Yes, sir.

Q. Assuming the same conditions of temperature and pressure?

A. That is correct.

[fol. 2488] Q. Now, do you have any devices for measuring the specific gravity of the gas in the field—in the West Texas fields?

A. In order to obtain the specific gravity of individual wells we make monthly tests at the wells.

Q. So you do know the specific gravity of the gas in the fields in the West Texas area?

A. Yes, sir.

Q. What is the specific gravity of that gas on the average?

A. Well, it varies over quite a wide range in the West Texas area. The average would be about seven five or seven six.

Mr. Griffith: Point seven?

A. Point Seven. Possibly that might be a little low. Some of the gas in that area runs better than one. It is heavier than air, quite a lot of it; so the average might be nearer .79.

Q. You don't really know for sure?

A. I would say that is about right.

Q. What is the composition of the West Texas gas that makes it so much heavier than the Panhandle gas, for instance, or the Oklahoma field gas?

A. It has a rather high content of ethane.

Q. Now, as shown in your exhibit, page 4, the specific gravity of the gas from the West Texas fields was maintained at all times at an average for the year 1933 of about .825; is that right?

A. It does not say so.

[fol. 2489] Q. Well, what is the correct statement?

A. The correct statement is that the average for the year 1933 was .825. It was not maintained.

Q. As measured?

A. Yes, sir.

Q. Now, that measurement is made after the introduction of the inert gas into the Joshua Compressor Station No. 1?

A. That is correct.

Q. In the front of your exhibit you show the main lines and tap lines used jointly and/or concurrently for the transportation of natural gas produced in the Texas and Oklahoma fields?

A. Yes, sir.

Q. Now, at the end of the three lines in the northwestern corner of your map you have a symbolic designation of some sort?

A. Yes, sir.

Q. What does that stand for?

A. Those represent meters—main line meters.

Q. Now, at each one of those meter installations do you have a gravitometer?

A. Not all of them; no, sir.

Q. You don't have the locations marked on this map for the location of the gravitometer?

A. No; we have a good many that are scattered at places all over the system so that we know what the gravity is at any particular point in the system, which is very necessary in connection with the measurement of gas.

[fol. 2490] Q. Now, you have omitted the lines or portions of lines which you consider do not carry West Texas gas from this map, do you not?

A. No; this map only shows the lines that are jointly used for the purpose of carrying West Texas and/or Oklahoma gas.

Q. All of the lines that you consider as carrying wholly West Texas gas have been omitted from this map, though, have they not?

A. That is correct.

Q. Now, at Trenton—you locate that on your map, do you not?

A. Yes, sir.

Q. Line O connects with this system, does it not, as shown by your map?

A. By this map?

Q. By referring to the big map can't you tell that Line O comes in at Trenton and connects with the system that you show on this map?

A. Yes, sir.

Q. You don't have a measuring station at Trenton, do you, as shown by your map?

A. That gate is closed in ordinary operations and is being used in case of ordinary repairs.

Q. Is that the reason that you omit all the rest of Line O?

A. No; the rest of Line O and up to Trenton is supplied entirely from West Texas.

Q. Well, if you had used that gate for anything besides [fol. 2491] repair purposes you would have included the portion of the line down around Joshua No. 1 station?

A. Why, no.

Q. Well, Line O, then, does not put any gas through Trenton into the system here ordinarily?

A. No, sir.

Mr. Griffith: It is a very small line, isn't it, Mr. Schmidt?

A. A three-inch line.

Q. What is the average specific gravity of the Panhandle gas?

A. The Panhandle gas averages about 625—point 625.

Q. Now, where is the measurement made?

A. Why, we measure all the gas at the wells.

Q. Well, did you use these measuring stations shown on your map as the points at which you made the measurement, or did you make the measurement in the field and take the average for each well?

A. The measurement of gas?

Q. Yes—the specific gravity of the gas.

A. Oh, the specific gravity?

Q. Yes.

A. The average that we used on the Panhandle was from the wells.

Q. So you took the specific gravity of the gas at each well and then averaged it?

A. No, I am wrong. The specific gravity shown in this report is the gravitometer record of Line A—we have several of them—the principal one at Petrolia.

[fol. 2492] Q. The principal one is at Petrolia?

A. The one we used, yes, sir.

Q. Well, did you use any other gravitometer readings besides the one at Petrolia?

A. Well, they are practically the same on that line.

Q. What are the ranges of variation as shown by the gravitometer readings at Petrolia on that gas?

A. It varies very slightly—possibly five and a third decimal place.

Q. You mean by that from about .600 to .625?

A. No, from about .62 to about .63.

Q. Now, where is your gravitometer for the findings of specific gravity on the H and Second H Lines?

A. At the same place—Petrolia.

Q. That is likewise at Petrolia?

A. Yes.

Q. You mean you have two gravitometers there?

A. We have several.

Q. Well, separate ones on the H?

A. Yes.

Q. Well, now, what is the range of the gas coming through the H. Lines?

A. That will vary from .61 to about .635, along in there.

Q. Where is your gravitometer on the G system?

A. At Gainesville.

Q. What is the range of the specific gravity for that gas?

[fol. 2493] A. That will average about .63.

Q. Well, what is the range?

A. It varies possibly from .62 to .64.

Q. Now, if you happen to be off so much as 100 in adopting the average for the specific gravity of these gases it would make a very great difference in your calculations, would it not?

A. No, it would not make any great difference.

Q. It would make as much as ten or fifteen per cent in your calculations, would it not?

A. No, sir.

Q. The specific gravity you used on the West Texas gas was .83, wasn't it?

A. No, we used a different specific gravity for each month.

Q. Well, what did it average?

A. Well, it varied from—

Q. Don't you state in the text that it averaged about .83?

A. For the year.

[fol. 2494] Q. All right; now, then, if that is the average.

A. Yes.

Q. And the Oklahoma gas averages .63, that is a difference of 20 points on the scale, isn't it?

A. Yes.

Q. So as between those two cases, specifically, if you are off as much as 1/100 it would make a five per cent difference in your calculations, wouldn't it?

A. That is not the way we calculated it; we made curves for each month and took the weighted specific gravity of the gas from the two different sources and plotted the curve for each month.

Q. I understand that, but as between these two specific gravities 1/100 of a point makes five per cent difference, doesn't it?

A. I don't know. If one was 1/100 high and the other was 1/100 low, it wouldn't make any difference.

Q. Well, now, just look at one of your computations, Mr. Schmidt. Suppose you look at page 54, where you show a curve showing per cent of West Texas gas for different specific gravities, September, 1933.

Mr. Griffith: You mean page 54 of the Appendix?

Q. Yes, page 54 of the appendix. Now, at the lower end of your graph you have assumed a specific gravity of .63, have you not?

A. This curve of course has a very wide line on it, Mr. Fitzhugh. These were not the curves we used in compiling this data but this is simply to show the method we used. The curve we used has a very fine line on it, and the specific [fol. 2495] gravity may have been .63 or .631 or .635.

Q. All right, but it is sufficiently accurate to illustrate what I am trying to show. It looks to be approximately .63, does it not?

A. That is correct.

Q. Now, suppose you had found a gas of a specific gravity of .6 or in other words, found that this gas weighed six times as much as a similar volume of air—or rather, six-tenths as much as a similar volume of air at the same pressure and temperature conditions. Then what would have been the difference in your per cent of west Texas gas, say on the .2 marker on your horizontal axis?

A. If we had found that condition, we would of course have made the curve to agree with that condition, and then the percentage of West Texas gas would have been reduced by — In other words, if we had found .6 and drew the curve for .6 and we found that the specific gravity of the gas we were trying to determine the content of the West Texas gas was .7; then you would follow along from the .7 on the

left hand side across until you hit the curve and that would have increased the percentage of this West Texas gas by some amount over and above what it was.

Q. And doesn't it show on your graph that would have figured out about ten per cent?

A. You can't tell by looking at the graph. You have to plot it.

Q. You can tell by looking at this graph can't you?

A. No, sir; it takes an entirely new graph from that [fol. 2496] which I have shown here. This was the average for the month of September and that is why we used it.

Q. Did you plot a specific gravity curve each month for the specific gravity of the Oklahoma and Shamrock gas?

A. It varies practically none as an average for the month.

Q. So you didn't make different plottings?

A. No, sir.

Q. You used the same one?

A. Yes sir.

Q. Could you by the use of this method, Mr. Schmidt, separate the Panhandle gas or the gas from the Shamrock field in Wheeler County from the Oklahoma gas?

A. No sir.

Q. And the reason you could not make that separation is because they are practically the same specific gravities?

A. That is correct.

Q. Now, is there any way by using your exhibit, by any sort of a method, that a separation could be made of the gas that comes from the Panhandle, Wheeler county field?

A. No, sir.

Q. Is there any way that using your exhibit a separation could be made of the gas produced in Oklahoma and the gas produced in Texas?

A. Produced in Oklahoma and produced in West Texas, yes. That is what we have done.

Q. Now, you bring some gas down from the Panhandle field through Oklahoma, and into Texas?

[fol. 2497] A. Yes.

Q. Now that has the same specific gravity as some of the Oklahoma gas, doesn't it?

A. That is correct.

Q. Now, there is no way, using your method, that you could make a separation of the gas that came from the

Panhandle field and went back into Oklahoma, from the gas that was produced in Oklahoma and came into Texas, is there?

A. No, sir.

Q. And there is no way, is there Mr. Schmidt, that you could make any differentiation in your exhibit, between the gas actually produced in Texas and the gas actually produced in Oklahoma?

A. Yes, this differentiates between the gas produced in the Panhandle of Texas, and the gas produced in West Texas.

Q. And the gas that is produced in the Panhandle of Texas is produced in Texas, isn't it?

A. Yes.

Q. It's Texas gas, then?

A. Yes, produced in Texas.

Q. Then there is no way you could make any segregation between the Texas gas, and the Oklahoma gas?

A. West Texas gas is produced in Texas.

Q. I know; but just answer my question, Mr. Schmidt.

A. I am trying to.

Q. There is no way, is there, using the method you have used in your exhibit, that you could separate the gas actually produced in the state of Texas, from the gas actually [fol. 2498] produced in the State of Oklahoma?

A. Yes.

Q. Now, how would you do that?

A. The gas produced in the Panhandle of Texas is very readily separated from the gas produced in the West Texas area.

The Court: Mr. Witness, I don't believe you understand the question. He is trying to get you to state if there is a way to separate the gas produced in the State of Oklahoma from the gas produced in the State of Texas.

A. Yes, there is; this exhibit shows as differentiating between the West Texas gas, and the Oklahoma gas, and this shows a method.

Q. I don't believe you get me, Mr. Schmidt, or else you don't want to answer the question.

A. I would be very glad to answer the question, if I could understand it.

Q. I want to know if, using your method, you can make a separation of the gas produced in Texas, including this

Panhandle gas, from the gas produced in the State of Oklahoma.

A. Maybe I can make this sort of a statement and answer your question. There is no way to differentiate between the gas produced in the Panhandle area and the Oklahoma fields, but there is as between the Oklahoma fields and Panhandle files, and the West Texas area.

Q. All right then, to answer my question, you can not, [fol. 2499] using the method detailed in this exhibit, make a separation between the gas produced in the state of Texas, from the gas produced in the State of Oklahoma, can you?

A. I may be thinking about this as—

The Court: I believe you can answer the question. You are trying to treat the Panhandle gas as Oklahoma gas, are you not?

A. Yes.

The Court: Now, treat that gas as being Texas gas, which is produced in Texas.

A. No, there is no way to separate those.

Q. Of course, a separation could be made, but you have not adopted that sort of method?

A. I don't know how a separation could be made.

Q. You could actually measure it, could you not, the gas that comes from Oklahoma, and the gas that comes from Texas.

A. We can measure the different volumes, yes, before they are mixed.

Q. Certainly.

A. That's right.

Q. Now, you have used, have you not Mr. Schmidt, a different method of allocation in finding the portion of revenues attributable to the carriage of gas wholly produced and transported and sold in Texas, from the method of allocation you used in finding the value of the property used for the same sort of carriage?

[fol. 2500] A. We divided the sales into their classes and applied the same factor that was used in the property allocations.

Q. Well, you have two separate methods of allocation, do you not?

A. No.

Q. What is the method that you used in making your allocation of the revenues?

A. We applied the percentage of property to the amounts of domestic and industrial gas which represented the west Texas gas.

Q. Now, you and Mr. Hulcy and Mr. Connor got together to make up these two exhibits, didn't you—Exhibit 45 and Exhibit 46?

A. Mr. Connor and I worked up one of them, whatever the number is.

Q. Well, you understand the method that Mr. Hulcy used in his exhibit, do you not?

A. I am quite familiar with it.

Q. Mr. Hulcy explained that E operations covered gas sales, expenses and property used in connection with gas purchased and produced in the State of Texas and/or Oklahoma, transported through and sold in the State of Texas and the State of Oklahoma. Now, you understand what he means by those E operations, do you not?

A. I don't believe I understand his methods sufficiently to testify about them.

Q. I am not going to try to examine you on his exhibit, of course, but you know what he means by E operations, don't you?

A. I think so.

Q. Now, Mr. Hulcy, in finding the per cent of revenues [fol. 2501] on the property used jointly as between the D and the E operations, found that approximately 37 per cent of the revenues would be attributable to E operations—that is, unless we have made some mistake in figuring out that percentage, that is the way it works out. Now, when the allocation of the property is made to the E and D operations, 44 per cent of the property is found to be assignable to the E operations. Now doesn't that show an inconsistency, if Mr. Hulcy's figures are all based on your findings?

A. Mr. Fitzhugh, I don't know that I can answer your question. I have not examined Mr. Hulcy's report, and I heard only a part of his testimony.

Q. On page 32 of your exhibit, where you have the method of allocation, as a title, the text reads as follows:

“The fixed charges which accrue on the value of the property items of Lone Star Gas Company are largely a function of the passage of time, and are therefore independent of the amount of use to which these property

units are put measured in terms of the volume of gas transported”

And then you go on and say:

“Interest or return, ad valorem taxes and local assessments and the reserves required for depreciation, amortization and the cost of replacements, will accrue uniformly upon the value of a pipe line, irrespective of the volume of gas which may be transported through this line during the period of time (the year 1933 in the instant “case) in [fol. 2502] which these fixed charges will accrue.”

Now then, doesn't that show, Mr. Schmidt, that you used a different basis for the allocation of property to what you used as a basis for your allocation of the revenues?

A. No, sir.

Q. Well, what was the basis for the allocation of the property values?

A. We applied a factor of 8.33.

Q. What page are you on now?

A. Well, take page 36, the allocation of Line B. We applied a factor of 8.33 to the per cent of West Texas gas delivered by months, to determine the per cent by months in the allocation of the Line B. property.

Q. Now, this application of the 8.33 factor you got by simply dividing 100 per cent by 12, to get it on a monthly basis, I believe you said?

A. That is correct.

Q. And that results in an average—or rather, that results in a total allocation for the year 1933 on Line B and the B taps of 22.17 per cent?

A. That is correct, except there is an error in that particular system. In the month of July the per cent of west Texas gas delivered should have been 51.09, and the effect of that would be to increase the allocation of Line B and the B taps to 26.01 per cent.

Q. Now then, you used that 26.01 per cent as the amount [fol. 2503] to apply for the property value allocation on Line B and the B taps?

A. That is correct.

Q. Now, what was the percentage that you found for the division of the revenue on the same portion of the company's property?

A. On the allocation of the revenue, we applied the same per cent of West Texas gas delivered to that amount of gas divided as domestic and industrial by actual sales records in order to allocate the sales.

Q. Now what page does that show on, please sir?

A. Page 44, at the bottom of page 44 in the third column from the right; the percentages in that column which are applied to the domestic and industrial sales of west Texas gas, are the reciprocals of the column, next to the last column on page 36, which shows the sales of Oklahoma and Texas Panhandle gas rather than the west Texas gas, and the method would have been the same.

Q. Now, your sheet 44 does not show, does it, Mr. Schmidt, the per cent that you actually used for the allocation of revenue on Line B and B taps, does it?

A. Revenues?

Q. Yes.

A. It shows the amount of gas of the different kinds, in order to determine the revenues.

Q. Well, that is 100 per cent of the revenues, isn't it?

A. No, sir.

Q. If you take the sales of both classes?

A. No, we have not taken the sales of both classes.

[fol. 2504] Q. Well, you show for the West Texas domestic, 73.58 per cent, and for the industrial, 26.42 per cent. Those add up to 100 per cent, don't they?

A. Yes, that is 100 per cent of the west Texas gas, divided into the two classes. So does the two percentages of Texas Panhandle and Oklahoma add up to 100 per cent, which are the percentages of those two classes of the Oklahoma and Texas Panhandle gas.

Q. Can you tell the total amount of revenues that you did apportion to the Line B and B taps?

A. I did not apply revenues. I only got the volumes of the two classes.

Q. Can you tell how it would work out in percentage of revenues?

A. No, sir; there is nothing in this report to indicate that.

Q. At any rate, it would not work out to be the 26.01 per cent that you apply to the property values, would it?

A. There is no reason why it should.

Q. That is just the point we are trying to make. You have not used the same method of allocation in finding the

property values used for certain operations that you have used in getting the revenues for certain classes of operations?

A. For the very reasons we have set out.

Q. Now, why do you feel justified in using a different method?

A. We have only applied so far as revenues are concerned, strictly the gas that is furnished and sold in these areas that comes from the West Texas area, and the whole purpose of this report was to determine the quantities of [fol. 2505] the two different classes of sales, the total of which is West Texas gas.

Q. Well, at any rate, Mr. Schmidt, your method in each case works out, when applied to any particular line, to apply a higher per cent in finding the property value, and a lower per cent to find the revenues. Isn't that right?

A. I don't know. I don't think so.

Q. To that particular property, I mean?

A. I don't believe it does. But I don't know of any other method of doing it than the way we have.

Q. Well now, suppose you find that Line B and the B taps are using 26.01 per cent, or are used that amount in the work of distributing west Texas gas, and that 26.01 per cent of the property value is to be attributed to those operations. Why wouldn't you be reasonably justified in saying that 26.01 per cent of the revenues coming in from those lines is to be attributed to the west Texas gas operations?

A. The only revenues that you could attribute to those lines are the revenues derived from the sale of the West Texas gas, and that is exactly what we have set out.

Q. Well, you could divide the property that way, could you not?

A. It would not be proper.

Q. Why wouldn't it?

A. Because, as stated before, the fixed charges on this property are a matter of time and not volume. Our taxes go on monthly, regardless of whether we are carrying one million or a hundred million feet in a particular line. [fol. 2506] Interest, amortization and depreciation are all charges which are a function of time and not volume.

Q. All right, assuming that is true, Mr. Schmidt, there is no reason you can not make a split on the fixed charges?

A. We did.

Q. On the same basis as the revenues?

A. We did. Because we applied to the 8.33 factor, which is one-twelfth of 100, we applied the percentage of West Texas gas which was handled in each of these systems by months.

[fol. 2507] Q. Now, suppose, Mr. Schmidt, that we have a line that for ten months of the year uses wholly West Texas gas and the other two months of the year it uses gas from some other source. Now, then, you would have a split on the property value of that line, and for the fixed charges you would attribute 83.3 per cent of the value of that line to the West Texas gas, wouldn't you?

A. No, it would be something greater than that.

Q. How much?

A. Whatever per cent of West Texas gas was used in the other two months, applied to the 83.3 factor.

Q. Well, I mean—assume that the gas for the other two months comes from the Oklahoma and Texas Panhandle, then your percentage would be exactly 83.3 per cent, wouldn't it?

A. That is correct.

Q. Now, then, assume that the two months when this line takes no West Texas gas, but during which it is getting its gas from the Texas Panhandle or from Oklahoma, happened to be the cold months of the year, say, January and December, and assume that they use as much gas in those two months as they do the other ten, or the rest of the year, then your split for revenues would be fifty-fifty, wouldn't it—[fol. 2508] fifty per cent for the West Texas operations and fifty per cent for the Texas Panhandle and Oklahoma operations?

A. We would use the revenues derived from the sale of the gas, regardless of what time it was delivered. Time has nothing to do with that.

Q. And your split in this case would be fifty-fifty, wouldn't it?

A. That is correct.

Q. Now, referring again to Line B and the taps, as shown on page 44,—during 1933 how much West Texas gas was delivered through Line B and the taps?

A. Thirty-one billion, two hundred and forty million.

Mr. Griffith: Let us have that answer again.

A. Thirty-one billion, two hundred and forty million.

Q. Thirty-one million, isn't it?

A. It is thirty-one million. It is thirty-one million, two hundred and forty thousand—that is correct.

Q. Now, for the Oklahoma and Texas Panhandle gas through Line B and the B taps.

A. One hundred and seventy-two million, ~~four~~ hundred and forty-two thousand.

Q. Now, then, of the total deliveries, this West Texas gas represented about 15 per cent, didn't it?

[fol. 2509] A. 18.2 per cent was West Texas gas.

Q. Now, then, assuming the same average price for the sale of the West Texas gas as for the Oklahoma and Texas Panhandle gas, then your split for revenues would have been on an 18.2 per cent basis, for the West Texas operations?

A. That is right.

Q. And that compares with the 26.1 per cent that you used with the property values?

A. It very properly compares with that, because the property values—the charges against property are entirely a matter of time, and not volume.

Q. Now; this is just about the Line B and B taps that we have used for the purpose of the examination, but the thing works out on all the other lines the same way, doesn't it?

A. The same price applies to all the other lines, yes, sir.

Q. Yes, sir, and this shows that the two methods of allocation you have used—one being applied to property and the other being applied to revenues, operates to burden the West Texas operations with considerably more property value, while giving it considerably less percentage of the revenues, doesn't it?

A. This method applies to the property—

[fol. 2510] Q. Now, you can answer that Yes or No, can't you?

A. No, I can't answer that Yes or No. This method gives a proper allocation to the property as a function of time and volume, and a proper allocation to revenues as a matter of volume alone.

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Q. I don't understand that answer, Mr. Schmidt. Can you make it any plainer?

A. Yes, sir. I don't know that I can make it any plainer. Our revenues are derived entirely from the sale of gas, and we have applied the revenues—divided them up between in-

dustrial and domestic gas—that is, the West Texas delivered into any particular system, divided that for that purpose—for the purpose of domestic and industrial, to take care of the change in rates; and if it had been delivered all in one month the revenues would have been the same, and if the gas [fol. 2511] had been delivered all in one month the allocation of the property and fixed charges would have occurred all in one month, and the volumes tie into both of them, in that the per cent of West Texas delivered in any particular month is applied to the factor of 8.33, to determine the per cent that the fixed charges bear to the one hundred per cent, total fixed charges.

Q. Well, it really doesn't make any difference, does it, Mr. Schmidt, so far as the end result is concerned, whether you regard it from a monthly basis or from a yearly basis?

A. It absolutely does.

Q. Would that be true as to property?

A. Yes, sir, that would be true as to fixed charges.

Q. I will ask you the question I asked you a minute ago, Mr. Schmidt, if your method here hasn't all the way through resulted in a higher per cent being applied to the property values for the West Texas operations and a lesser per cent of the revenues chargeable to the same operations?

A. I can't answer that without—I made no such comparison. There wasn't any necessity for any such comparison.

Q. Well, don't you know that is a fact, Mr. Schmidt?

A. No, I don't know it for a fact; no, sir.

Q. Well, are you willing to say it is not a fact?

[fol. 2512] A. No, sir.

Q. You just don't know.

A. It doesn't make any difference.

Q. Now, on the same page—44—on the F System, you show that the West Texas domestic gas was 56.09 per cent, while the Oklahoma and Texas Panhandle domestic gas was 66.14 per cent.

A. Both of those per cents refer to the total West Texas gas and the total Oklahoma and Texas Panhandle gas with reference to the domestic gas in each case.

Q. Using those percentages would result in giving to the Oklahoma and Texas Panhandle gas a higher price than for the West Texas, would it not?

A. No, sir.

Q. Well, why wouldn't it?

A. Well, the price is the same.

Q. Now, your domestic gas sells at 40 cents per thousand cubic feet, doesn't it?

A. That is correct.

Q. And what is about the average price for the industrial—about twenty cents?

A. Somewhere around there.

Q. Well, assume that it is twenty cents, to show how this percentage would work out,—what would be the cost of your—that is, the price of the Oklahoma and Texas Panhandle [fol. 2513] gas for Line F, as compared with the West Texas?

A. We get the same price for gas, regardless of its source.

Q. I know; but you have a different division, do you not, for the West Texas from what you do for the Oklahoma and Texas Panhandle?

A. On volume, yes, sir.

Q. As between industrial and domestic?

A. Yes, sir.

Q. Now, applying the 40-cent price to the domestic and the 20-cent price to the industrial, how does it work out to get your price?

A. The price, Mr. Fitzhugh, is forty cents and twenty cents: I don't believe I—

Q. Do you understand what I mean?

A. Well, the prices are the same.

Q. Well, the average price isn't the same, is it?

A. Yes, sir.

Mr. Griffith: That is for the—the average price for domestic and the average price for industrial?

The witness: That is correct.

Q. No, I am talking about the average price for the West [fol. 2514] Texas and the average price for the Oklahoma and Texas Panhandle gas.

A. They are exactly the same. The average prices are exactly the same.

Q. All right; to work it out, Mr. Schmidt, and make plain what I am trying to ask you,—you have got 88—you have got 66.14 per cent for the Oklahoma and Texas Panhandle domestic?

A. 66.14 per cent of the total Oklahoma and Texas Panhandle gas was domestic gas, yes, sir.

[fol. 2515] Q. If you take a pencil and work this out, Mr. Schmidt, won't you find that the average selling price for the Oklahoma and Texas Panhandle gas was 33 cents?

A. No, sir.

Q. And that for the West Texas it is 22.4 cents?

A. No, sir.

Q. Well, what would it be?

A. Forty cents for the domestic and twenty cents for the industrial gas in either case.

Mr. Griffith: You are using twenty cents as an approximate figure?

A. Yes, sir.

The Court: It is your testimony that you would get 40 cents for domestic gas regardless of where it comes from, or regardless of where it is sold by you?

A. That is right.

The Court: Therefore, you- average for domestic gas is 40 cents?

A. Bound to be 40 cents.

Q. Now, all this gas is mixed up in the lines?

A. Yes, sir.

Q. The West Texas, Panhandle and Oklahoma?

A. Yes, sir.

Q. And you use a different percentage for West Texas than you do for Oklahoma and the Panhandle?

A. We used the exact volumes of West Texas gas that [fol. 2516] went into the E System or the F System, and divided those between domestic and industrial gas.

Mr. Griffith: You did that by months?

A. Yes, sir.

Mr. Griffith: Based upon the actual domestic and industrial sales for the particular months?

A. For the particular months; that is correct.

Q. Now, go back to "B" and "B" taps on the same page.

A. What page?

Q. On page 44. A moment ago you gave the total for Line "B" and taps of 172,441 cubic feet for the Texas Panhandle and Oklahoma gas.

A. 172,442.

Q. Now, assuming that the domestic was at 40 cents and the domestic at 20 cents, what was the average price you got for that gas?

A. Forty cents and twenty cents.

The Court: I think I understand what he wants. He is trying to get you to figure the average price per thousand cubic feet, if you mixed it up altogether and sold it at the average price.

Mr. Fitzhugh: That's it exactly. I think he knows what I want.

The Court: I don't know; it just now dawned on me what you are trying to get at; of course, I may be as dumb as the witness.

[fol. 2517] Mr. Fitzhugh: I have been asking over and over again for the average price of Texas and Oklahoma gas.

A. The average price we get for this gas is the same, regardless of the source it comes from.

Q. You are talking about the average by class; I am talking about the average for every thousand cubic feet.

Mr. Griffith: I think what he wants is the weighted average for the combined industrial and domestic.

A. If you will take any particular month, you will find that the percentage—I don't know whether I can explain it to you clearly or not—the trouble is it is a mathematical function, that gives you a different monthly average. Taking the monthly averages is not the same as taking the total for the year as an average.

Q. Now, go back to Line F, on the same page, of the F System—the average there and the weighted average selling price for the West Texas gas shows to be 31 cents, doesn't it, assuming the industrial at 20 cents, and the domestic at 40 cents per thousand cubic feet, as the selling price?

A. I don't see how it could be anything less than 40 cents. I don't know how you arrive at it.

Q. If you multiply this 56 per cent figure by 40 cents, and the 43.91 per cent figure by 20 cents, and average those?

A. Yes, sir; you will get a different result than if you [fol. 2518] take the individual months and apply the same factors to the individual months.

Q. You will get 31 cents, won't you?

A. You will get the same for both cases. You will get 40 cents in both cases for the individual month.

Q. Mr. Schmidt, isn't it a fact that if you did get the weighted average for this gas you would get 31 cents on the

West Texas, and 33 cents on the Oklahoma and Texas Panhandle?

A. I have not made that calculation, Mr. Fitzhugh; but if you apply the same method to each month as I have it set down here, the average prices are identical for the particular month. Now, when you take the total of those months you will get a slightly different weighted average.

Q. On the other lines that you show in the exhibit it works out the same way, doesn't it?

A. Yes, sir.

Q. You always have a higher percentage for the Oklahoma and Texas Panhandle domestic than you do for the West Texas domestic?

A. I have not checked all of them. Did you say a higher domestic average on the West Texas than on the Panhandle?

Q. The weighted average selling price for the gas that you show in your exhibit on all these lines for the Oklahoma and Texas Panhandle is higher than that for the West Texas gas, isn't it?

A. No, sir.

[fol. 2519] Q. Can you point out a line where that is not true?

A. Page 45, I believe that would work out differently.

Q. You don't show any lines on this page?

A. That is a delivery—the same as a line.

Q. But for all of the lines you show, that is true, isn't it?

A. I don't believe it would be true for C-2.

Q. What page?

A. Page 48.

Q. Is there any other line?

A. G-3 on page 51.

Q. Now, just to sum up this whole method, if you had used throughout the same percentage as applied to revenues as you used applied to property, as the basis of allocation, you would have gotten much higher revenues than as shown by Mr. Huley's Exhibit?

A. It would not have been proper to apply those factors that way.

Q. It is a fact that you have gotten higher revenues for the West Texas operations?

A. You can only get such revenues as West Texas gas is sold for.

Q. It is clear that you use two allocation methods, isn't it?

A. Used two different methods.

Q. Now, if you had used the same allocation method for property as you had used for revenues, an entirely different result would have been obtained?

A. Yes, sir.

[fol. 2520] Q. And the result would have been to give in Mr. Huley's Exhibit higher revenues attributable to West Texas operations, or lesser cost of property, whatever you want to call it?

A. It might in some cases.

Redirect examination.

Questions by Mr. Griffith:

Q. Since yesterday, Mr. Schmidt, have you had occasion to review your testimony as incorporated in the written transcript?

A. I have.

Q. In making an extension of your explanation of specific gravity, do you find that you were in error?

A. I must have misquoted on page 2357. I said that if you have a certain volume of gas under a given temperature and pressure, and you determine the weight of that volume of gas, and divide that into the weight of the same amount of air under exactly the same conditions of pressure and temperature, that would give the specific gravity; and it is just the reverse of that. What I meant to say is that if you have the weight of a given volume of gas under certain temperature and pressure conditions, and divide that by the weight of the same volume of air, under the same conditions of temperature and pressure, you will have the specific gravity of the gas.

[fol. 2521] Q. Mr. Schmidt, what is the average British Thermal Unit content of the gas produced in the Shamrock and the Oklahoma fields?

A. Slightly over one thousand—1010 to 1020.

Recross-examination.

Questions by Mr. Fitzhugh:

Q. When gas goes through a gasoline extraction plant where volatile gasoline is extracted, the British Thermal

Unit content of the residue gas after the extraction is different from what it was formerly?

A. Very slightly lower—less than three per cent on the average; and it would be reduced by a certain extent even if those plants were not there by the condensation of those vapors in the lines themselves, which would have to be removed and would not reach the consumer.

Q. That is, if all the gas did condense out?

A. If those certain hydrocarbons do condense out.

Q. I mean if all of the gasoline did condense out?

A. That is right.

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[fol. 2522] D. A. HULCY, a witness for defendant, recalled for further cross examination, testified as follows:

Mr. Griffith: May I ask one question before you begin, Mr. Fitzhugh?

Mr. Fitzhugh: Yes, sir.

By Mr. Griffith:

Q. In connection with the allocation of Line B, as shown by the Schmidt-Connor report, Defendant's Exhibit 45, Mr. Schmidt has testified that through some inadvertence a slight error of 5 per cent crept into those calculations?

A. Yes; that is correct.

Q. How would that affect the calculations and determinations which you have set forth in Defendant's Exhibit 46?

A. The figure used by me for Line B 16-inch and its taps was 22.17 per cent. I took that percentage of the total property in the B 16-inch tap as being applicable to "D" Operations. Had the error not occurred, I would have used, as found in the Schmidt-Connor report, a percentage of 26.01 per cent, and would have increased the value of the property applicable to "D" Operations, and thereby reduced proportionately the amount applicable to "E" Operations.

Q. Would it have been a relatively small change, in any event?

A. Yes.

Mr. Griffith: That is all.

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